Client No.: 9-15652-2US Re No.:

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Date: September 11, 2007
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To	Company - City	Phone	Facsimile
ART UNIT 1712 **Attention:** **Examiner Peng**	United States Patent and Trademark Office		571-273-1091

Message

Please see attached.

Re: United States Patent Application No. 10/815,826
Filed: April 2, 2004
Title: Drilling Fluid
Inventor: Len Baltoiu
Our Ref: 9-15652-2US

File No. 9-15652-2US

Date: September 11, 2007

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	**Len Baltoiu**
Filed:	**April 2, 2004**
Serial No.:	**10/815,826**
Title:	**DRILLING FLUID**
Examiner:	**Philip C. Tucker**
Group Art Unit:	**1712**

Mail Stop Amendment

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA
22313-1450 U.S.A.

Sir:

In response to Examiner Peng's telephone request of September 10, 2007, submitted herewith is the MS-DS information which was inadvertently omitted from our response dated June 7, 2007.

Respectfully submitted,

By _____
Paul Sharpe
Registration No. 39,493
Agent for Applicant

PSS/sr

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Research

PRODUCTS

Polyanionic Cellulose (PAC) Specification

Formula: $[C_6H_7O_2(OH)_{3-n}(OCH_2COONa)_n]_x$

PAC-HV (High-viscosity)	
Appearance	White or light yello
Substituting degree	0.85-1.1(
Apparent viscosity in water, mPa.s	≥50 (3.7g/
Apparent viscosity in saturated brine, mPa.s	≥60 (3.7g/
Water, %	< 9
pH	6.0-8.0
Mud generating capacity	≥400m 3,

PAC-LV (Low-viscosity)	
Appearance	White or light yellow p
Substitution degree	0.85-1.10
Apparent viscosity in water, mPa.s	≤ 6.0 (2.286 g/l
Apparent viscosity in saturated brine, mPa.s	≤ 6.0 (2.857 g/l
Apparent viscosity in 4% brine, mPa.s	≤ 6.0 (4.286 g/l
Water %	<10
pH	6.0-8.5
Filtration loss, ml	≤ 13.0 (3.6g/l)

Characteristic

Polyanionic cellulose is white or yellowish powder that is odorless and soluble in water to form thick liquid. It has good heat-stability and high salt. It is not fermented. Polyanionic cellulose (PAC) is a sodium carbo cellulose with high uniformity, high degree of substitution and high qua

Usage

The product is used as an additive for drilling mud, especially used in salt-rich aera or under the sea.

Packing

The inner layer is polyethylene film bag. The outer layer is plastic wov composite plastic woven bag. Net weight is 25kg per bag.

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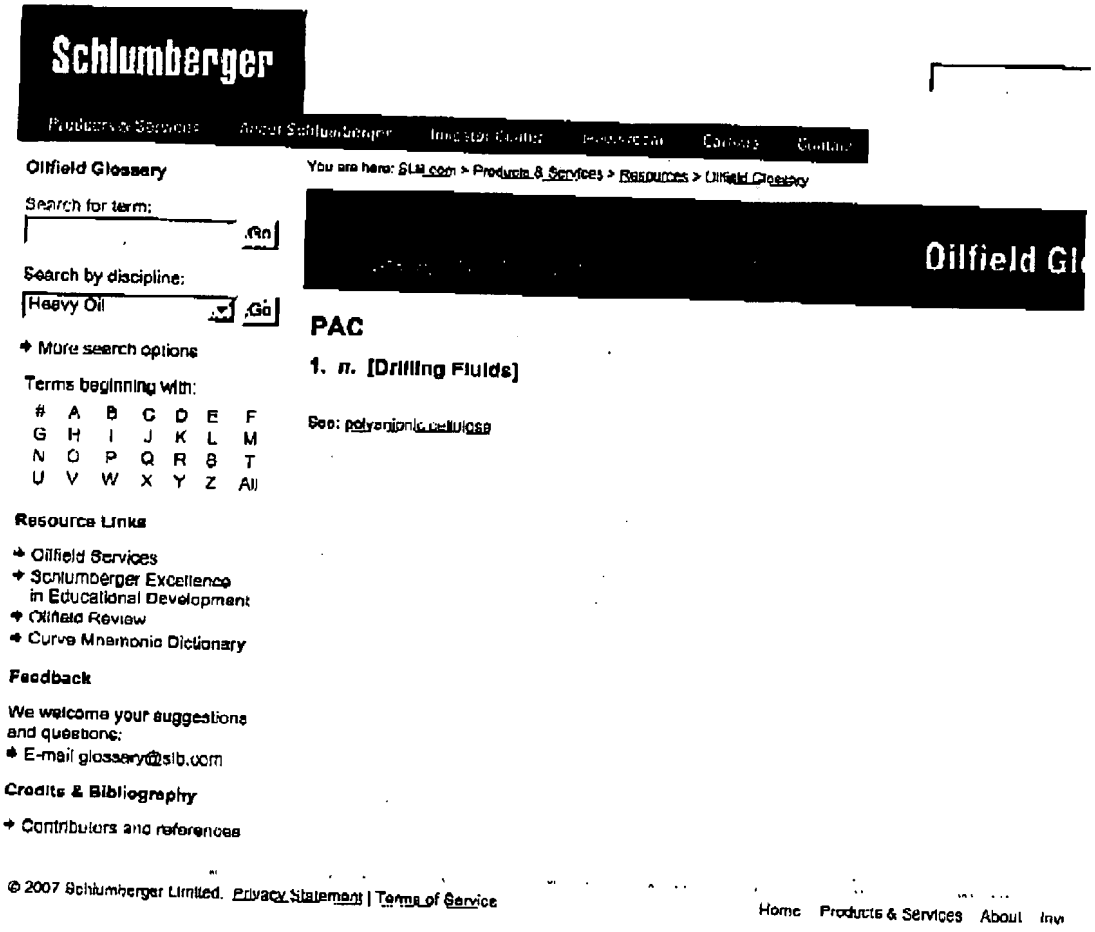
polyanionic cellulose

1. *n.* [Drilling Fluids]

A cellulose derivative similar in structure, properties and usage in drilling fluids to carboxym carboxymethylcellulose. PAC is considered to be a premium product because it typically ha degree of carboxymethyl substitution and contains less residual NaCl than technical grade carboxymethylcellulose, although some PACs contain considerable NaCl.

See: calcium carbonate, carboxymethylcellulose, PAC, potassium myd



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PAC

1. *n.* [Drilling Fluids]

See: polyanionic cellulose

http://www.glossary.oilfield.slb.com/Display.cfm?Term=PAC

Brand Name	Generic Name/Composition	Primary Function	Manufacturer/Supplier
18A12	Liquid PHPA	Flocculants	Allied Colloids
2K7 Water Soluble Pak	Myaqoe Powder	Lubricants	Canamara United
Abandonpak	Multifunctional packer fluid inhibitor (water soluble)	Corrosion inhibitor	ICTC
Abandonpak (SD)	Self-dispersing, multifunct packer fluid inhib (water soluble)	Corrosion inhibitor	ICTC
ABI 2/8 Medium Plug	Sized bentonite	Lost Circulation Material	Milenium Technologies Ltd.
ABI High Yield Bentonite	Peptized wyoming bentonite	Viscosifiers	Milenium Technologies Ltd.
ABI Premium Gel	Wyoming bentonite	Viscosifiers	Milenium Technologies Ltd
ABI Untreated Gel	Untreated wyoming bentonite	Viscosifiers	Milenium Technologies Ltd.
Acliguard	Shale & clay inhibitor for Aphron ICS	Shale Control Inhibitors	AI/CIBA Specialty Chemicals
Activated Carbon	Charcoal	Surface Active Agents	AI
Activator I	Thermal stabilizer for APHRON ICS	Polymer Stabilizers	M-I Baroid/Federal
Activator II	Thermal stabilizer for APHRON ICS	Polymer Stabilizers	M-I Baroid/Federal
Adapta	Oil mud HTHP filtrate reducer	Filtrate Reducers	Baroid
AK-70	Gilsonite	Filtrate Reducers	Baroid
Aktaflo-E	Oxyethylated alkyl phenol liquid	emulsifier	Baroid
Aktaflo-S	Mixed oxyethylated phenols	Surface Active Agents	Baroid
Alcomer 110 RD	High mol wt anionic dispersible polyacrylamide	Flocculants	AI / CIBA specialty chemicals
Alcomer 120L/OB	Liquid HMW anionic polyacrylamide	Shale Control Inhibitors	AI/CIBA Specialty Chemicals
Alcomer 242	AMPS - polyacrylamide copolymer	Filtrate Reducers	AI/CIBA Specialty Chemicals
Alcomer 274	Liquid anionic acrylic co-polymer emulsion	Viscosifiers	AI/CIBA Specialty Chemicals
Alcomer 338 RD	High Mol wt, Anionic polyacrylamide	Flocculants	AI / CIBA specialty chemicals
Alcomer 60RD	LMW anionic dispersible PHPA	Shale Control Inhibitors	AI/CIBA Specialty Chemicals
Alcomer 72L	Liquid LMW anionic acrylate-based polymer	Thinners, Dispersants	AI/CIBA Specialty Chemicals
Alcomer 74	Modified acrylic polymer, calcium stable	Thinners, Dispersants	AI/CIBA Specialty Chemicals
Alcomer 74L	Liquid anionic acrylic co-polymer, calcium stable	Thinners, Dispersants	AI/CIBA Specialty Chemicals
Alcomer 80RD	HMW anionic dispersible PHPA	Shale Control Inhibitors	AI/CIBA Specialty Chemicals
Aldacide G	Glutaraldehyde solution	bactericides	Baroid
Alkafloc A/25 D	Dispersible PHPA low viscosity anionic	Shale Control Inhibitors	AI/Synerchem
Alkafloc EA-73	PHPA emulsion	Shale Control Inhibitors	AI/Synerchem
Alkafloc EA8	Sulfonated AMPS	Shale Control Inhibitors	AI/Synerchem
Alkapam A-1103 D	Dispersible PHPA HMW anionic	Flocculants	AI / Synerchem
Alkapam A-1703D	Dispersible PHPA HMW anionic	Viscosifiers	Synerchem
Alkapam A-25D	Dispersible PHPA low viscosity anionic	Flocculants	AI / Synerchem
Alkapam C-1003	Cationic	Flocculants	AI / Synerchem
Alkapam CP767	PHPA cationic HMW	Flocculants	AI / Synerchem

Alkapam Extra	Liquid PHPA HMW	Viscosifiers	Synerchem
Alkapam N 100XD	Dispersible PHPA MMW non-ionic	Flocculants	All / Synerchem
Alkapam N-1109D	Polyacrylamide	Shale Control Inhibitors	All
Alkapam S	Polyacrylamides	Flocculants	All / Synerchem
All Temp	All temperature polymeric deflocculant	Thinners, Dispersants	Baker Hughes Inteq
Alphadrill	Liquid shale stabilizer	Shale Control Inhibitors	Canamera United
Alplex	Inhibitive aluminum complex	Shale Control Inhibitors	Baker Hughes Inteq
Aluminum Stearate	Aluminum stearate powder	defoamer	All
Amnodrill	Amine based liquid shale inhibitor (winterized)	Shale Control Inhibitors	ICTC
Ammonium Bisulfite	Oxygen scavenger	corrosion inhibitor	All
Ammonium Sulphate	Ammonium sulphate	Shale Control Inhibitors	All
Aphron ICS	Water-base reservoir drilling fluid	Systems	M-I Swaco/Federal
Aqua Pac LV	Polyanionic cellulose	Filtrate Reducers	Bri-Chem Supply Ltd
Aqua Pac Regular	Polyanionic cellulose	Filtrate Reducers	Bri-Chem Supply Ltd
Aqua-Col	Cloud-point polyglycol	Shale Control Inhibitors	Baker Hughes Inteq
Aqua-Drill System	Inhibitive glycol based drilling fluid	Systems	Baker Hughes Inteq
Aquagel	Treated sodium montmorillonite	Filtrate Reducers/Viscosifier	Baroid
Aquagel Gold	Treated sodium montmorillonite	Filtrate Reducers/Viscosifier	Baroid
Aquagel Gold Seal	Treated sodium montmorillonite	Viscosifiers	Baroid
Aquamagic	Non-toxic oil free differential sticking preventative	Lubricants	Baker Hughes Inteq
Aquapac LV	Polyanionic cellulose	Shale Control Inhibitors	Bri-Chem Supply Ltd
Aquapac Regular	Polyanionic cellulose	Viscosifiers	Bri-Chem Supply Ltd
Aqua-Star D	Carboxymethyl starch	Filtrate Reducers	Canamera/Hollimex
Asphasol D	Sulfonated organic blends	Shale Control Inhibitors	M-I Swaco/Federal
Asphasol Supreme	Sulfonated asphalt	Shale Control Inhibitors	M-I Swaco/Federal
Attapulgite	Clay viscosifier for salt water systems	Viscosifiers	All
B 1007	Granular Biocide	bactericides	ICTC
B 1008	Liquid, non-foaming biocide	bactericides	ICTC
B.A.S.E. Mud	Water based mud for bitumen & heavy oil wells	Systems	Marquis Fluids
Barablok	Powdered hydrocarbon resin	Filtrate Reducers	Baroid
Barabuf	Magnesium Oxide pH stabilizer	alkalinity pH control	Baroid
Baracarb	Sized calcium carbonate	Lost Circulation Material	Baroid
Baracat	High charge cationic polymer	Shale Control Inhibitors	Baroid
Barachek	Cellulosic Polymer	Filtrate Reducers	Baroid
Barasolve	Polar activator for use in 100% oil systems	Surface Active Agents	Baroid
Bara-Defoam HP	Polypropylene glycol	defoamer	Baroid
Bara-Defoam I	Surface active defoamer	defoamer	Baroid

Baro-Defoam W300	Surface active defoamer	defoamer	Baroid
BaraDril-N	Non damaging acid soluble clay-free system	Systems	Baroid
Barafilm	Filming amine	corrosion inhibitor	Baroid
Barafloc	Acrylamide polymeric hydrolite powder	Flocculants	Baroid
Barafoam	Sodium AO sulphonate	Foaming Agents	Baroid
Barafos	Modified sodium polyphosphate	Thinners, Dispersants	Baroid
Baragel 3000	Oil mud viscosifier	Viscosifiers	Baroid
Baranex	Temperature stable lignite powder	Filtrate Reducers	Baroid
Baraplug	Sized and treated salts	Lost Circulation Material	Baroid
Baracarb-Vis	Organophilic viscosifier for oils	Viscosifiers	Baroid
Barascav D	Powdered sodium sulphite	corrosion inhibitor	Baroid
Barascav L	Liquid oxygen scavenger	corrosion inhibitor	Baroid
Baracol	Sodium asphalt sulphonate	Shale Control Inhibitors	Baroid
Baravis	HEC	Viscosifiers	Baroid
Baraweight	Processed iron carbonate	Weighting Materials	Baroid
Barazan	Polysaccharide biopolymer	Viscosifiers	Baroid
Barazan D	Dispersion enhanced xanthan gum	Viscosifiers	Baroid
Barazan D Plus	Dispersant added biopolymer	Viscosifiers	Baroid
Barazan L	Liquid xanthan gum biopolymer	Viscosifiers	Baroid
Barite	Processed barites (BaSO4)	Weighting Materials	All
Barium Carbonate	Barium carbonate	Commercial Chemicals	Imco/All
Baroweight	Iron oxide	Weighting Materials	Baroid
Barofibre	Fibrous cellulosic material	Lost Circulation Material	Baroid
Baroid	Barite barium sulphate (BaSO4)	Weighting Materials	Baroid
Baroid 100	All oil fluid system	Systems	Baroid
Barolift	Specially treated monofilament fiber sweeping agent	Viscosifiers	Baroid
Baro-Lube GS	Surfactant/lubricant blend	Lubricants	Baroid
Baroseal	Combination LCM	Lost Circulation Material	Baroid
Baro-Spot	Blend of anionic surfactants	Lubricants	Baroid
Baro-Trol Plus	Blended hydrocarbon powder	Shale Control Inhibitors	Baroid
Ben-Ex	Co-polymer flocculant and clay extender	Viscosifiers	All/Kelco Oilfield Group
Bentone	Modified organophilic clay	Viscosifiers	Bri-Chem Supply Ltd.
Bentone 38	HTHP performance organoclay	Viscosifiers	Bri-Chem Supply Ltd.
Bentone 910	Economical organoclay	Viscosifiers	Bri-Chem Supply Ltd.
Bentone 150	Self-activating organoclay	Viscosifiers	Bri-Chem Supply Ltd.
BBX	W/calcium carbonate stabilized HEC	Viscosifiers	Brine-Add Fluids
Bicarb of Soda	$NaHCO_3$	alkalinity pH control/calcium removers	All

Bio - Spot	Non-toxic oil free, water soluble spotted fluid for weighted muds	Lubricants	Baker Hughes Inteq
Bit-Drill	Polyglycol ROP enhancer	Shale Control Inhibitors	Baker Hughes Inteq
Bio-Lose	Non-fermenting chemically modified starch	Fibrous Reducers	Baker Hughes Inteq
Bio-Lose 80	Drill in system for fractured peritonite reservoirs	Systems	Baker Hughes Inteq
Bio-Pag	Organic derivate filtration control agent	Fibrous Reducers	Baker Hughes Inteq
Biovis	H.T.biopolymer	Viscosifiers	Canamara United
Biozan	HT biopolymer	Viscosifiers	Ashland Oilfield Group
Black-Magic	Oil-based spotting fluid	Lubricants	Baker Hughes Inteq
Black-Magic LT	Low toxicity spotting fluid	Lubricants	Baker Hughes Inteq
Black-Magic SFT	Spotting fluid concentrate	Lubricants	Baker Hughes Inteq
Blankolite	Coupled gilsonite-based dispersion	Fibrous Reducers	Sun Drilling Products
Blazolube K-Plus	Liquid potassium based gilsonite	Shale Control Inhibitors	Sun Drilling Products
Bleach	Sodium Hypochlorite	bactericides	Canadian Utilities
Bolo Streak	Cardiolipin dencapsulator polymer kit	Surface Active Agents	M-I Swaco/Fenetal
BMI Foamtech	Anionic surfactant	Foaming Agents	Drayton Mud
BOS Liqui	Blended hydrocarbon powder	Shale Control Inhibitors	Brine-Add Fluids
Bravodrill	Low colloidal high performance WBM	Systems	Baroid
Bore-Plate	Blend of lubricating properties	Shale Control Inhibitors	Canamara United
Brocit	Metallic stearate dispersed in alcohol	defoamer	Drilling-Add Fluids
Bit-Chem Double	Non-ionic surfactant	Surface Active Agents	Bit-Chem Supply Ltd.
Bit-Chem Defoamer	General purpose alcohol defoamer	defoamer	Bit-Chem Supply Ltd.
Bit-Chem IMP	Concentrated anti-balling surfactant	Surface Active Agents	Bit-Chem Supply Ltd.
Bit-Cide/Mix	Liquid Biocide	bactericides	Bit-Chem Supply Ltd.
Bridge Bit	Polymers, calcium lignosulfonate, salt	Filtrate Reducers	Brine-Add Fluids
Bridglix	Sized calcium carbonate	Lost Circulation Material	Brine-Add Fluids
brine Guard	Sulphide scavenger - zinc carbonate	corrosion inhibitor	Brine-Add Fluids
Brinedrill-N	Viscosified heavy brine system	Systems	Baroid
Brine-Ox	Fully hydrolyzed OZ polymer	corrosion inhibitor	Brine-Add Fluids
Brinescale	Sized salt for density and fluid loss control	Weighting Materials	Brine-Add Fluids
Bug-Killer	Glutaraldehyde (50% solution)	bactericides	Brine-Add Fluids
BXR	Blended asphalt and hydrocarbon resin	Shale Control Inhibitors	Baroid
BXR-L	Blended asphalt/ hydrocarbon resin in a glycerol/glycol base	Shale Control Inhibitors	Baroid
Cage Abandnent Tube	Sized Zeolite	Lost Circulation Material	Canadian Utilities
Calcium Carbonate	Sized calcium carbonate	Weighting Materials	All
Calcium Chloride	Calcium Chloride	Shale Control Inhibitors	All
Calcium Chloride	Calcium Chloride	Weighting Materials	All
Cam-Break EBS	Water soluble enzyme acid blend	Polymer Breakers	Canamara United

Cen-Break ECA	cellulose, gaur and starch breaker	Polymer Breakers	Centerra United
Cen-Break I	Enzyme breaker	Polymer Breakers	Centerra United
Cen-Ex	Bentonite extender	Viscosifiers	Centerra United
Cen-Free	Surfactant for mixing with oil to free pipe	Surface Active Agents	Centerra United
Cen-Oil	100% oil-based drilling fluid	Systems	Syrnco Drilling Fluids
Cen-Oil FLC	Fluid loss control for oil-oil system	Filtrate Reducers	Centerra United
Carbo-Core B	Refined Oil	Drill Mod Base Fluids	Baker Hughes Inteq
Carbo-Core R191	All-oil drilling / drill in fluid	Systems	Baker Hughes Inteq
Carbo-Core B System	Refined oil invert emulsion	Systems	Baker Hughes Inteq
Carbo-Drill System	Mineral oil invert emulsion	Systems	Baker Hughes Inteq
Carbo-Gel	Organophilic bentonite/additive for solids suspension	Viscosifiers	Baker Hughes Inteq
Carbo-Mul (318)	Oil invert emulsifier and wetting agent	emulsifier	Baker Hughes Inteq
Carbo-Mul HT	High-temp emulsifier and wetting agent	emulsifier	Baker Hughes Inteq
Carbonox	Vanilla humic acid powder	Thinners, Dispersants	Barroid
Carbo-Tec	Oil mud emulsifier	emulsifier	Baker Hughes Inteq
Carbo-Trol	Oil mud filtration-asphaltic blend	Filtrate Reducers	Baker Hughes Inteq
Carbo-Trol A-9	Non-asphaltic filtration control agent for invert	Filtrate Reducers	Baker Hughes Inteq
Carbo-Trol HT	High-temp softening point asphalt for improved filtration in inverts	Filtrate Reducers	Baker Hughes Inteq
Carbo-Vis	Organo-bentonite	Viscosifiers	Baker Hughes Inteq
Carbwate	Calcium carbonate	Weighting Materials	Brine-Add Fluids
Cel-800	Modified starch	Filtrate Reducers	Baroid
Cel-HI	Modified cellulosic polymer	Filtrate Reducers	Hamil
Cel-LO	Modified cellulosic polymer	Filtrate Reducers	Baroid
Cel-Vis	Welan gum biopolymer	Viscosifiers	Baroid
Caustic Potash	KOH	alkalinity pH control	All
Caustic Soda	NaOH	alkalinity pH control	All
CD 700	Liquid clay control (winterized)	Shale Control Inhibitors	ICTC
CC-16	Causticized lignite	Filtrate Reducers	Baroid
CDF-100L	Anionic polyacrylamide	Shale Control Inhibitors	Concord Drilling Fluids
Cellex	Sodium carboxymethyl cellulose	Filtrate Reducers	Baroid
Celloflake	Cellophane flake	Lost Circulation Material	All
Cellophane	Cellophane flake	Lost Circulation Material	All
Cesium Formate	High density brine	Weighting Materials	Centerra United
CF Descoll	Organic thinner chrome-free	Thinners, Dispersants	All Drilling Specialties
CFL 100	Chrome free lignosulfonate		Georgia Pacific
Chek-Loss	Ground complexed cellulose	Lost Circulation Material	Baker Hughes Inteq
Chek-Loss Coarse	Ground complexed cellulose	Lost Circulation Material	Baker Hughes Inteq

Chek-Loss Plus	High lignin cellulose LCM for EE in invert fluids	Lost Circulation Material	Baker Hughes Inteq
Chembreak EE	Enzyme for breaking polymers	Polymer Breakers	Prime-Add Fluids
Chembreak CCA	Enzyme blend for polymers and starch	Polymer Breakers	Prime-Add Fluids
Chemcide KC	Calcium hypochlorite oxidizing agent	Polymer Breakers	Prime-Add Fluids
Chemcide	Liquid Biocide	bactericides	Canamara United
Chemclean Rig Wash	Biodegradable bio cleaner/degreaser	Surface Active Agents	Canamara United
Chemfoam	Foaming agent for water	Foaming Agents	Canamara United
Chemguard	Corrosion inhibitor & anti-anaerobic bactericide	corrosion Inhibitor	Prime-Add Fluids
Chemoil	Breakable oil-based mud	Systems	Baroid
Chemoil pH	pH control - chemoil system	alkalinity pH control	Canamara United
Chemoil-Bulk	pH control - chemoil system	alkalinity pH control	Canamara United
ChemoilHDFM	Defoamer for Chemoil system	Refiner	Canamara United
Chemoil-Gel	Silica-gelant	Viscosifiers	Canamara United
Chemoil-Link	Cross-link for chemoil gel	Viscosifiers	Canamara United
Chemoil-Thin	Thinner for chemoil system	Thinners, Dispersants	Canamara United
Chemthin UM	Thinner for oil-based muds	Thinners, Dispersants	Canamara United
Chemtrol X	High-temp filtration control agent for water-base fluids	Filtrate Reducers	Baker Hughes Inteq
Cimtrol I	Oil mud primary emulsifier	emulsifier	Canamara United
Chemul II	Oil mud secondary emulsifier	emulsifier	Canamara United
Cimtrol OM	Oil mud wetting agent	emulsifier	Canamara United
Cimwet OM	Wetting agent	Surface Active Agents	Canamara United
Citrun FloC	PHPA	Flocculants	Chiron Technologies
Chrome Alum	Chromic chloride	Commercial Chemicals	Imco/All
Cl-150	Corrosion inhibitor	corrosion inhibitor	M-I Swaco/Federal
Citric Acid	Alkalinity control	alkalinity pH control	All
Cleanzan	Cleaned xanthan gum	Viscosifiers	Drilling Specialties Co.
Clay Grabber	Selective flocculant for Hydro-Guard system	Flocculants	Baroid
Clay Syn	Shale inhibitor for Hydro-guard system	Shale Control Inhibitors	Baroid
Clayseal Plus	Amphoteric material	Shale Control Inhibitors	Baroid
Clay-Trol	Amphoteric amine complex	Shale Control Inhibitors	Baker Hughes Inteq
Clean Up	Rig Wash Cleaner	Surface Active Agents	M-I Swaco/Federal
Clearoil	Low toxicity SBM mineral oil	Drill Muri Base Fluids	All
Clearex	Blended polymers with carbonates	Lost Circulation Material	TETC
Clearfoam K	Potassium formate	Shale Control Inhibitors	Millenium Technologies Ltd.
CMC	Carboxymethyl cellulose	Fluids Reducers	Millenium Technologies Ltd.
C-Mul	FAU emulsifier	Lubricants	All
Comporbe	Starch system (16cr)		Sun Drilling Products

CoastalLube	PAO lubricant	Lubricants	Sun Drilling Products
Con Det	Mud Detergent	Surface Active Agents	Barold
Conqor 404	Phosphorus-based corrosion inhibitor	corrosion inhibitor	M-I Swaco/Federal
Core-Gel	All oil fluid system	Systems	Baroid
Corinox	Corrosion inhibitor/oxygen scavenger	corrosion inhibitor	Canamara Limited
Cottonseed Hulls	Hydrus biodegradeable hull material	Lost Circulation Material	Baker Hughes Inteq
Cremox MEP 426	3 way packer fluid inhibitor	corrosion inhibitor	Baker Hughes Inteq
DRW 132	3 way packer fluid inhibitor	corrosion inhibitor	Baker Hughes Inteq
Crystal-Drill	Polymeric shale inhibitor	Shale Control Inhibitors	Baroid
Caquest28	Filtrate reducer stability	Filtrate Reducers	Marquis Fluids
Cypan	Sodium Polycarbylate	Filtrate Reducers	AllFineline Additives
D178 Plus	High-temp polymer filtrate control for high salinity environments	Filtrate Reducers	Drilling Specialties Co.
Dekalite (Gentle)	Lignite	emulsifier	All
Dap	Diammonium phosphate	Shale Control Inhibitors	All
D-Break	Viscosity breaker for pure oil systems	Thinners, Dispersants	Concord Drilling Fluids
D-Buff	pH control - pure oil systems	alkalinity pH control	Concord Drilling Fluids
D-Control	pH control - pure oil systems	alkalinity pH control	Concord Drilling Fluids
DD	Drilling Detergent	Surface Active Agents	M-I Swaco/Federal
Deepdrill Inhibitor	Blend of polyglycerine and methyl glucoside	Shale Control Inhibitors	Newpark Drilling Fluids
Defoam 2000	Silicone based defoamer	defoamer	Bri-Chem Supply Ltd.
Defoam-2	Water miscible fin polymer systems	defoamer	Rhino-Arid Fluids
Defoam-A	Alcohol based defoamer	defoamer	M-I Swaco/Federal
Defoamer Silicone	Silicone based defoamer	defoamer	Canamara Limited
Defoam-A	Low toxicity defoamer	defoamer	M-I Swaco/Federal
Densimix	Hematite	Weighting Materials	Baker Hughes Inteq
D8900	Organic diluent	Thinners, Dispersants	AllDrilling Specialties
Detergent L	Drilling Mud Detergent	Surface Active Agents	Bri-Chem Supply Ltd.
Desqui LT	Partially deshydrated polyacrylate	Filtrate Reducers	Baroid
DF -10	dry DHDA	Flocculants	IDF-Technifluids
Diamond Seal	Absorbent synthetic polymer	Lost Circulation Material	Baroid
Diasorb M	Plant/animal fibre material	Lost Circulation Material	All Drilling Specialties Co.
Dipro	High density low solids RDF	Systems	M-I Swaco/Federal
Diquatex	Wetting agent, rheology modifier	emulsifier	Bri-Chem Supply Ltd.
D-Unit	Viscosity activator-pure oil systems	Viscosifiers	Concord Drilling Fluids
DME	Non-ionic emulsifier	emulsifier	Imco
DMS	Non-ionic surfactant	Surface Active Agents	Imco
Dowcide G	Sodium Pentachlorophenate	bactericides	Imco/All

Drill Beads	Polymer beads	Lubricants	Federal / Alpine
Dril Treat	Lecithin liquid	Surface Active Agents	Baroid
Driloam	Polymer and mixed carbonate blend	Viscosifiers	Concord Drilling Fluids
Drill-con D	Blend non-ionic/anionic surface agents	Surface Active Agents	Sun Drilling Products
Driloon DB	Liquid shale inhibitor	Shale Control Inhibitors	Sun Drilling Products
Drill-Pac LV	Macromolecular cellulose	Lost Circulation Material	Canamara United
Driloam	Foaming agent for water	Foaming Agents	Baroid
Drill Kan M&P		Surface Active Agents	Millenium Technologies Ltd.
Duel Plug C/M	Blended mixed polyfiber fiber	Lost Circulation Material	Millenium Technologies Ltd.
Drilling Detergent	Drilling detergent liquid/powder	Surface Active Agents	Canamara United
Drilsol Plus	Amphoteric cellulose ether	Filtrate Reducers	Millenium Technologies Ltd.
Drillpac HV	Polyanionic cellulose	Viscosifiers	All/Drilling Specialties
Drillpac LV	Polyanionic cellulose	Filtrate Reducers	All/Drilling Specialties
Drill-Thin	Lignite-free organic thinner	Thinners, Dispersants	All/Drilling Specialties
Drill-N	Non-damaging clay-free polymer based system	Systems	Baroid
Drill-N-Slide	Blend of organics	Lubricants	Baroid
Driplex	MMO Viscosifier	Viscosifiers	M-I Swaco/Federal
Drillstar HT	High temperature starch	Filtrate Reducers	All
Drilsurf	Biodegradable demulsifier	Surface Active Agents	Concord Drilling Fluids
Drilcat D	Synthetic HTHP polymer	Filtrate Reducers	All/Drilling Specialties
Drilpac	Polyanionic cellulose	Viscosifiers	All/Drilling Specialties
Drilspic Plus	Polyanionic cellulose	Viscosifiers	All/Drilling Specialties
Drilpac Plus Superlo	Polyanionic cellulose	Filtrate Reducers	All/Drilling Specialties
Drilspec Superlo	Polyanionic cellulose	Shale Control Inhibitors	All/Drilling Specialties
DSCO Beads	Polymer beads	Lubricants	Drilling Specialties Co
DSCO Defoam	Propegary defoamer	defoamer	All/Drilling Specialties
D-Thine	Thinner for pure oil systems	Thinners, Dispersants	Concord Drilling Fluids
Dual-Flo	Filtrate Reducer	Filtrate Reducers	M-I Swaco/Federal
Duo-Vis	Xanthan gum, dispersible, non-clarified	Viscosifiers	M-I Swaco/Federal
Duratone HT	Driscoohilic colloid powder	Filtrate Reducers	Baroid
Duronex Plus	High-temp sulfonated co-polymer	Filtrate Reducers	Baroid
D-Vis	Viscosifier - pure oil systems	Viscosifiers	Concord Drilling Fluids
Dymodet	Drilling fluid detergent	Surface Active Agents	Newpark Drilling Fluids
Dynafiber	Cellulose fiber	Lost Circulation Material	Newpark Drilling Fluids
Dynarod	Ground natural fiber	Lost Circulation Material	Drilling Specialties Co.
Ecomil 317	Potassium silicate	Shale Control Inhibitors	National Silicates
Ecogreen B	Ester base fluid	Drill Mud Base Fluids	M-I Swaco/Federal

Ecogreen P	Primary emulsifier for Ecogreen system	emulsifier	M-I Swaco/Federal
Ecogreen S	Secondary emulsifier for Ecogreen system	emulsifier	M-I Swaco/Federal
Ecocol	Polymeric filtrate reducer	Filtrate Reducers	M-I Swaco/Federal
EK 2000 Degreaser	Detergent/cleaner	Surface Active Agents	Sun Drilling Products
Emul-Break	Emulsion breaker	Surface Active Agents	Canamara United
Emulgo	Chalk base emulsion	emulsifier	Brine-Add Fluids
Encapsulator	Liquid polyacrylamide	Flocculants	Canamara United
[illegible]	Liquid polyacrylamide	Flocculants	BA-Chem Supply Ltd.
Enkapsafloc	Liquid polyacrylamide	Flocculants	Canamara United
Envirodril	Low toxicity SHC mineral oil	Drill Mud Base Fluids	ICTC
Envirofloc	Inorganic biodegradable flocculant	Flocculants	Nyaka Hydro
Enviro KH	Amine Salt	Shale Stabilizer	Unknown
Enviroplug	Sized bentonite	Lost Circulation Material	Canamara United
Enviro-Spot	Oil mud concentrate	Lubricants	Baroid
Enviro-Thin	Chrome-free iron lignosulphonate	Thinners, Dispersants	Baroid
Enviro-Torq	non-toxic lubricant	Lubricants	Baroid
Envirovert	Chloride free OBM	Systems	M-I Swaco/Federal
Extra High Yield Bentonite	Peptized wyoming bentonite	Viscosifiers	Canamara United
EZ Drill	Non-foaming vegetable oil blend	Lubricants	[illegible]
Ez Mul NT	Oil-soluble surfactant liquid non-toxic	emulsifier	Baroid
Ezcem	In situ invert emulsifier	emulsifier	Baroid
EZE-Glide	Liquid lubricant	Lubricants	Sun Drilling Products
EZE-Slide D	Liquid lubricant	Lubricants	Sun Drilling Products
Ezeslide OS	Liquid lubricant	Lubricants	Sun Drilling Products
Ezeslide XLT	Liquid lubricant	Lubricants	Sun Drilling Products
Ez-Glide	Blend of surfactants	Lubricants	Baroid
EZ-Mud	Polyacrylamide polyacrylate	Shale Control Inhibitors	Baroid
EZ-Mud DP	Shale stabilizing polyacrylamide	Shale Control Inhibitors	Baroid
EZ-Plug	Acid soluble blend of LCM	Lost Circulation Material	Baroid
EZ-Spot	Blend of emulsifiers, lubricants and viscosifiers	Lubricants	Baroid
FA liquid phpa	Invert polyacrylamide	Shale Control Inhibitors	Fluid Solutions
Faze-Mul	Emulsifier for Fazepro system	emulsifier	M-I Swaco/Federal
Fazepro	Reversible-wetting invert emulsion mud	Systems	M-I Swaco/Federal
Fed Pac R	Polyanionic cellulose	Viscosifiers	Federal Wholesale
Fed Pac III	Polyanionic cellulose	Viscosifiers	Federal Wholesale
Federal Barite	API spec barite	Weighting Materials	Federal Wholesale
Federal Bentonite	Sodium montmorillonite	Viscosifiers	Federal Wholesale

Federal Supreme	Sodium montmorillonite (bentonite)	Viscosifiers	Federal Whirlpools
Fed-Mix II	Blended LCM	Lost Circulation Material	Fedamil
Fed-Rheomatic	Organic, Blend	Thinners, Dispersants	Federal Viscosifiers
Fed-Segil	Blended LCM	Lost Circulation Material	Fedmil
Fedsan D	Xanthan gum viscosifier	Viscosifiers	Federal Viscosonic
Fer-Vis	Ground hematite	Weighting Materials	MJ Swaco/Federal
Ferromate	Ferrous carbonate	Weighting Materials	Drlno-Add Fluids
Fiber, Cyclic Coarse	Cellulose fiber	Lost Circulation Material	dsi/Flowline Solutions
Fiber Fluid Fine	Cellulose fiber	Lost Circulation Material	All/Flowline Solutions
Fibersyl	Acid soluble LCM	Lost Circulation Material	Sim Drilling Products
Fil-Ind K	Potassium silicate	Shale Control Inhibitors	M-I Swaco/Federal
Filter-Chek	High-Temp Modified Starch	Fluids Reducers	Rancid
Filmgate	Polymeric viscosifier/fluid loss reducer used in conjunction with bentonite	Viscosifiers	Drilling Specialties Co.
Filtrate II	Enhanced foam viscosifier	Viscosifiers	Tylan Solutions
Filtrex	Polyanionic lignin resin	Filtrate Reducers	Baker Hughes Inteq
FL-2	Water-soluble hydro colloids	Filtrate Reducers	Drlno-Add Fluids
FL-3	Water-soluble hydro colloids	Filtrate Reducers	Drlno-Add Fluids
FL-4	Water-soluble hydro colloids	Filtrate Reducers	Drlno-Add Fluids
FL-5	Water-soluble hydro colloids	Filtrate Reducers	Drlno-Add Fluids
FL-9	Water-soluble hydro colloids	Filtrate Reducers	Drlno-Add Fluids
FL-7 Plus	Water-soluble hydro colloids	Filtrate Reducers	Drlno-Add Fluids
FL-8	Water-soluble hydro colloids	Filtrate Reducers	Drlno-Add Fluids
Flake	Cellophane flake	Filtrate Reducers	Drlno-Add Fluids
Flo-Plex	Polyanionic lignin resin	Lost Circulation Material	All
Flopro NT	Minimal solids non-aggregating WBM	Filtrate Reducers	MJ Swaco/Federal
Flo-Trol	Modified starch derivative	Systems	MI Swaco/Federal
Flo-Vis Plus	Premium xanthan gum	Filtrate Reducers	MJ Swaco/Federal
Flowzan	Xanthan gum dispersible	Viscosifiers	MI Swaco/Federal
Flovis	Organic flocculant	Viscosifiers	All/Drilling Specialties
Foam Breaker	Proprietary defoamer	Flocculants	MI Swaco/Federal
Foam Buster	Mechanical/Chemical defoamer	defoamer	Flowline Solutions
Foam Check	Mechanical/Chemical defoamer	defoamer	Sun Drilling Products
Form-A-Plug	Acid soluble plug	defoamer	Millenium Technologies Ltd.
Form-A-Plug II	Acid soluble plug with smaller particles	Lost Circulation Material	MI Swaco/Federal
Form-A-Set AK	Polymeric LCM	Lost Circulation Material	MJ Swaco/Federal
Form-A-Set ALT	Polymeric LCM for arctic climates	Lost Circulation Material	MI Swaco/Federal
Form-A-Set II	Polymeric LCM	Lost Circulation Material	MJ Swaco/Federal
		Lost Circulation Material	MI Swaco/Federal

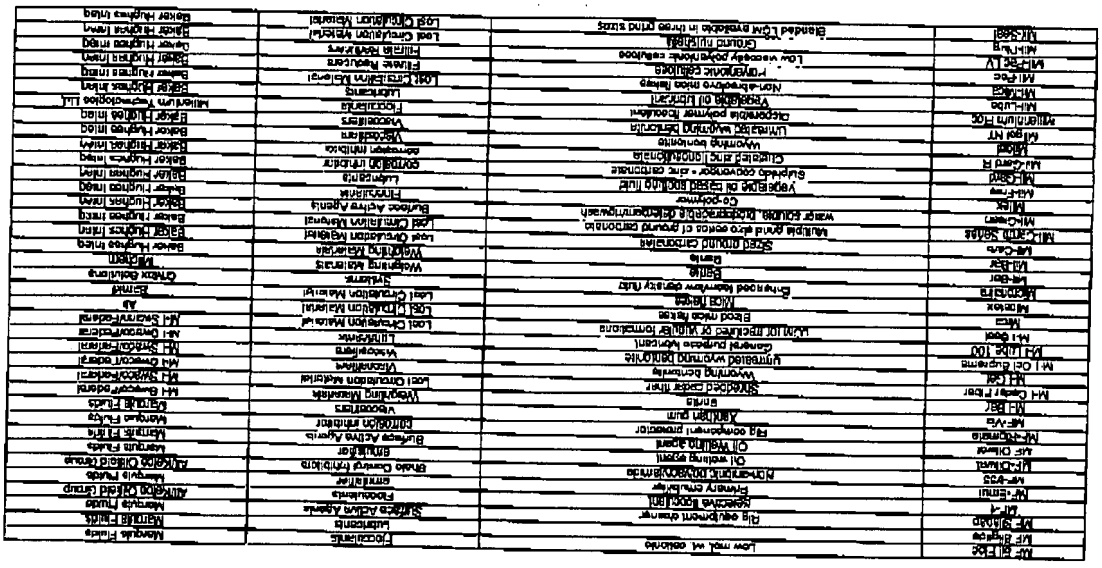
FS Liquid PHPA	Liquid polyacrylimide	Flocculants	Flowing Solvents
fx Brine	Ammonium formate	Shale Control Inhibitors	DMK Drilling Fluids Ltd
fx Mud I	Primary emulsifier	Emulsifier	DMK Drilling Fluids Ltd
fx Mud II	Secondary emulsifier	emulsifier	DMK Drilling Fluids Ltd
fx Oil Scrub	Oil soluble sulphide scavenger	corrosion inhibitor	DMK Drilling Fluids Ltd
fx Oil Viv	Blend of polymers	Viscosifiers	DMK Drilling Fluids Ltd
fx Scrub	Water soluble sulphide scavenger	corrosion inhibitor	DMK Drilling Fluids Ltd
fx Thin	Defoamers	Thinners, Dispersants	DMK Drilling Fluids Ltd
Galene	Lead sulphide powder	Weighting Materials	DMK Drilling Fluids Ltd
Gel	Sodium montmorillonite or Attapulgite	Viscosifiers	All
Gelex	Bentonite extender	Viscosifiers	All
Gelgine II	Oil mud gelling agent	Viscosifiers	M-I Swaco/Federal
Gellone IV	Polymer treated organophilic clay	Viscosifiers	Baroid
Gellone V	Amine treated organophilic clay	Viscosifiers	Baroid
Geovis XT	HT stable biopolymer	Viscosifiers	Baroid
Gilsonite	Natural bitumen	Viscosifiers	AMWaco Oilfield Group
Gilsonite HT	Natural bitumen pulverized	Shale Control Inhibitors	All
Glass Beads	Sized glass beads	Filtrate Reducers	All
Glide Graph 7001	Resilient spherical graphite blend	Lubricants	Canamera United
Gluvil	Polyalkylene glycol	Lubricants	Canamera United
Gn Gavil II	Provides LEAN for AI-PHPA/GLYDRIL system	Shale Control Inhibitors	M-I Swaco/Federal
Graphite Fuselu	Graphite	Viscosifiers	M-I Swaco/Federal
Greenide	Non-U.S. Biocide	Lubricants	Canamera United
G-Seal	Granular plugging agent	bactericides	M-I Swaco/Federal
Gumbo Shield	Liquid shale inhibitor	Lost Circulation Material	M-I Swaco/Federal
Gypsum	Calcium sulphate	Shale Control Inhibitors	Sun Drilling Products
H.E.C.	Hydroxyethyl cellulose	Shale Control Inhibitors	All
H.M.C. Supply	Non-ionic surfactant	Viscosifiers	All
Hibrol	Modified cellulosic polymer	Surfaces Active Agents	All
High Permia	Amine	Filtrate Reducers	Canamera United
HRO non C	Oil-soluble H2S scavenger	Shale Control Inhibitors	M-I Swaco/Federal
Hydrate	Liquid H2S scavenger	corrosion inhibitor	Nemgehi Drilling Fluids
Humalite	Lignite	corrosion inhibitor	All
Hydrogel	Wyoming Bentonite	Thinners, Dispersants	Baker Hughes INTEQ
Hydra-Gelend	High performance WBM	Viscosifiers	Canamera United
Hydro-Plug	Polymeric LCM for vugular or cavernous formations	Systems	Bit-Clurm Supply Ltd.
Hyperdrill AD655	Liquid HMW anionic polyacrylamide	Lost Circulation Material	Baroid
		Shale Control Inhibitors	Baroid
			Canamera United

Hypermill AF851	Liquid HMW anionic polyacrylamide	Shale Control Inhibitors	Canamara Unitad
Hypermill AF2504RD	Anionic polyacrylamide	Flocculants	All
Hypermill AF2507RD	High Mol wt. Anionic polyacrylamide	Flocculants	All
Hypermill AF847RD	LMW anionic dispersibly PHPA	Shale Control Inhibitors	Canamara Unitad
Hypermill CP 815H	Linear cationic PHPA	Shale Control Inhibitors	Canamara Unitad
Hyperfloc CP810	Cationic polyacrylamide	Flocculants	All
Hyperfloc CP811	Cationic polyacrylamide	Flocculants	All
Hyperfloc NF301	Non-ionic polyacrylamide	Flocculants	All
HyperLube	Water soluble fibrous additive blends	Filtrate Reducers	Bring-egg Fluids
I - Step Fak	Multifunct. Packer fluid rigid & flexible protection	corrosion inhibitor	ICTC
IC- foam 1878	Winterized foamer (water soluble)	Foaming Agents	ICTC
IC-CORR 7026	Winterized liquid corrosion inhibitor (oil soluble)	corrosion inhibitor	ICTC
IC-CORR 8551	Liquid corrosion inhibitor (water soluble)	corrosion inhibitor	ICTC
IC-DEFOAM 1458	Winterized antifoam (water soluble)	defoamer	ICTC
IC-DEFOAM 1885	winterized antifoam (oil soluble)	defoamer	ICTC
IC-flo 2066	Microtox friendly liquid flocculant (water soluble)	Flocculants	ICTC
IC-flo 9SM	Microtox friendly liquid flocculant (water soluble)	Flocculants	ICTC
IC-foam 1401	Winterized foaming agent (water soluble)	Foaming Agents	ICTC
IC-foam 1Main	Winterized oil foaming agent	Foaming Agents	ICTC
IC-foam 1500	Multi-H2S wipe capacity liquidity agent (water soluble)	Foaming Agents	ICTC
IC-HSCAV 4412	Winterized liquid H2S scavenger (oil soluble)	corrosion inhibitor	ICTC
IC-HSCAV 4751	Winterized liquid scavenger (water soluble high temp)	corrosion inhibitor	ICTC
IC-HSCAV 4835	Winterized liquid H2S scavenger (water soluble)	corrosion inhibitor	ICTC
IC-OSCAV 1000	Winterized catalyzed oxygen scavenger	corrosion inhibitor	ICTC
IC-Wet	water wetting agent (winterized)	Surface Active Agents	ICTC
Idcap D	Fibrous bridge initiator	Shale Control Inhibitors	MI Swaco/Federal
Idtitha	Refined vegetable oil	Lubricants	MI Swaco/Federal
Idtube XL	Extreme pressure lubricant	Lubricants	MI Swaco/Federal
Imco Bar	Barite	Weighting Materials	Imco
Imco Bent	Attapulgite	Viscosifiers	Imco
Imco Bringel	Attapulgite	Viscosifiers	Imco
Imco Cel	Cellulose hydroxyethyl cellulose	Thinners, Dispersants	Imco
Imco CMC (reg.hvis.lech)	Sodium carboxymethyl cellulose	Filtrate Reducers	Imco
Imco Defoam	Sodium ethyl aryl sulfonate	defoamer	Imco
Imco EP Lube	extreme pressure lubricant	Lubricants	Imco
Imco Flakes	Cellophane flake	Lost Circulation Material	Imco
Imco Fib	Hemlock extract	Thinners, Dispersants	Imco

Imco Flnc	Flocculating agent	Flocculants	Imco
Imco Defoamer	Surface active dispersible liquid defoamer	defoamer	Imco
Imco Freshpac	Oil soluble surfactants	Lubricants	Imco
Imco Fryer	Fibrous material	Lost Circulation Material	Imco
Imco Gel	Bentonite	Viscosifiers	Imco
Imco Gelex	Bentonite Extender	Viscosifiers	Imco
Imco Halemet	Water dispersible sorghum	Lubricants	Imco
Imco Hyb	Beneficiated bentonite	Viscosifiers	Imco
Imco Kan-Fol	Viscosifier & gelling agent	Viscosifiers	Imco
Imco Kenat-3	Invert emulsion system	Systems	Imco
Imco Kenat-R(D)	Primary emulsifier	emulsifier	Imco
Imco Kesun	Calcium oxide	Shale Control Inhibitors	Imco
Imco Kan-Plus	Specialty modified dispersed fatty acid derivative	emulsifier	Imco
Imco Kan-Plex	Gelatinous oil base fluid	Systems	Imco
Imco Kan-Supreme	Oil base mud	Systems	Imco
Imco Kan-Supreme A	Fatty acid emulsifier	emulsifier	Imco
Imco Kan-Supreme B	Emulsion stabilizer	emulsifier	Imco
Imco Kan-Thin	Dispersant	Thinners, Dispersants	Imco
Imco Kan-X	High temperature stabilizer	emulsifier	Imco
Imco Kan-X	Invert emulsion system	Systems	Imco
Imco Klay	Sub-bentonite	Viscosifiers	Imco
Imco Methacel	Combination of granules, flakes and fibrous materials	Lost Circulation Material	Imco
Imco Lig	Mined lignite	Thinners, Dispersants	Imco
Imco Lolo	Prepolymerized starch	Filtrate Reducers	Imco
Imco Lubrilean	Organic entity neutralized with amines	Lubricants	Imco
Imco MD	Defoamer	Lubricants	Imco
Imco Mud Oil	Oil dispersible sorghum	Lubricants	Imco
Imco Myco (P,C)	Ground Mica	Lubricants	Imco
Imco Ni-X	Low cost invert emulsion system	Lost Circulation Material	Imco
Imco Phos	Sodium tetraphosphate	Systems	Imco
Imco Plug (F,M,C)	Walnut shells	Thinners, Dispersants	Imco
Imco Preservatol	Paraformaldehyde	Lost Circulation Material	Imco
Imco PT-102	Filming amine	bactericides	Imco
Imco QBT	Quebracho compound	corrosion inhibitor	Imco
Imco RD-111	Blended lignosulfonate blend	Thinners, Dispersants	Imco
Imco SCR	Shale control reagent	Thinners, Dispersants	Imco
Imco Spot	Blend of fatty acids, sulfonates & aliphatic materials	Specialty products	Imco
		Lubricants	Imco

Imco Surf-X	Specially blended zwitterionic	corrosion inhibitor	Imco
Imco SWS	Blend of anionic surfactants	emulsifier	Imco
Imco Thin	Causticized Lignite	Thinners, Dispersants	Imco
Imco VC-10	Modified lignosulfonate	Thinners, Dispersants	Imco
Imvy VR	Stabilizes borehole conditions	emulsifier	Imco
Imco Wate	Calcium carbonate	Weighting Materials	Imco
Imco Ylud	Fibrous material wool	Lost Circulation Material	Imco
Imvn xc	Bacterially produced polymer	Viscosifiers	Imco
Inpersinx	Pregelatinized starch	Filtrate Reducers	Imco
Inhibidril	Cellulosic polymeric multisalt inhibitor	Shale Control Inhibitors	Dorvid
Inhibox	Corrosion inhibitor/oxygen scavenger	corrosion inhibitor	Bri-Chem Supply Ltd.
Insta-Flake	Flake calcium carbonate	Lost Circulation Material	Bri-Chem Supply Ltd.
Invermul NT	Oil mud stabilizer non-toxic	emulsifier	Flowline Solutions
Jetflake	Shredded cellophane	Lost Circulation Material	Baroid
Jet Clide 330	Glutaraldehyde	Lost Circulation Material	Baroid
Jet Hib 5000	H2S scavenger	Dispersants	Millennium Technologies Ltd.
Jet Hib 9426	Corrosion inhibitor	corrosion inhibitor	Millennium Technologies Ltd.
Jet Hib 4432	Oxygen scavenger	corrosion inhibitor	Millennium Technologies Ltd.
Jet Scav 9000	Drilling detergent	corrosion inhibitor	Millennium Technologies Ltd.
K-9	Cationic organic multisalt inhibitor	Surface Active Agents	Millennium Technologies Ltd.
K2(Envirg K2)	Potassium mud product	Shale Control Inhibitors	Cesamess Limited
Kem	Stabilized HEC	Systems	Penthe Mud
Kp-40	Phosphate ester corrosion inhibitor	Viscosifiers	Brine-Anti Fluids
Kelzan L	Liquid xanthan gum	corrosion inhibitor	Baker Hughes Inteq
Kelzan XC	Xanthan gum	Viscosifiers	AlfKaim Oilfield Group
Kelzan XCD	Dispersible grade xanthan gum	Viscosifiers	AlfKaim Oilfield Group
Kem-Seal	Co-polymer for high-temp filtration control	Viscosifiers	AlfKaim Oilfield Group
Kem-Weld	Polymerized alkyl carbonate	Filtrate Reducers	Baker Hughes Inteq
Kenayl	Sulfonated asphalt	Viscosifiers	Alfa-Add Fluids
K-Paute	Potassium nitrate	Shale Control Inhibitors	Filtrative Solutions
KwikSeal	Crumb/fiber LCM	Shale Control Inhibitors	Millennium Technologies Ltd.
LD-8	Non-ionic surfactant defoamer	Lost Circulation Material	Bri-Chem/Kelco Oilfield Group
LD-9	Polyether polyol defoamer for both fresh & saltwater drilling fluids	defoamer	Baker Hughes Inteq
La Mul	LAO emulsion stabilizer	defoamer	Baker Hughes Inteq
Le Supermul	LAO emulsifier	emulsifier	Baroid
Liqro	Lignite	emulsifier	Dorvid
Lignox	Causticized Lignite	Thinners, Dispersants	Baker Hughes Inteq
		Thinners, Dispersants	Baker Hughes Inteq

Lignite	Lignite(Humic acid)	Thinners, Dispersants	All
Lignite, Caustisized	Lignite, caustisized	Thinners, Dispersants	All
Lignocal	Calcium lignosulfate	Thinners, Dispersants	Cansamara United
Lime	Hydrated Lime	alkalinity pH control	All
Liquid Drispac	Polyanionic cellulose	Viscosifiers	All/Drilling Specialties
Liquid Flowzan	Suspended xanthan gum	Viscosifiers	All/Drilling Specialties
Liquid HEC	Suspended HEC	Viscosifiers	All/Drilling Specialties
Liquidbeads	Liquid lubricant with beads	Lubricants	Sun Drilling Products
Liqui-Drl	ROP enhancer	Lubricants	Barroid
Liquigel	Liquid dispersed xanthan gum	Viscosifiers	Brine-Add Fluids
Liquizanex	Concentrated surfactant	Surface Active Agents	Cansamara United
LiquiVis EP	Dispersed liquid HEC	Viscosifiers	Barroid
Lube-100	Low toxicity lubricant	Lubricants	MI Swaco/Federal
Lubra-Beads	Cured polymeric styrene beads	Lubricants	Barroid
Lubraffer	Modified cellulose fiber	Lost Circulation Material	Sun Drilling Products
Lubra-Glide	Cured polymeric styrene beads	Lubricants	Sun Drilling Products
Lubra-Seal	Modified cellulose fiber	Lost Circulation Material	Sun Drilling Products
Lubra-Seal C	Sized cellulose fiber	Lost Circulation Material	Sun Drilling Products
Lubra-Seal M	Sized cellulose fiber	Lost Circulation Material	Sun Drilling Products
Magcober	Barite	Weighting Materials	Magcober
Magcogel	Sodium Montmorillonite		Magcober
Magma Fiber	Acid soluble spun mineral fiber	Lost Circulation Material	All/Flowline Solutions
Magnafloc 10	V. high mol wt. Anionic polyacrylamide	Flocculants	All / CIBA specialty chemicals
Magnafloc 24	High mol. wt. Anionic polyacrylamide	Flocculants	All / CIBA specialty chemicals
Magnafloc 351	V. high mol wt. Non-ionic	Flocculants	All / CIBA specialty chemicals
Magnafloc 368	Low mol. wt. Cationic coagulant	Flocculants	All / CIBA specialty chemicals
Magnesium Oxide	pH buffering agent	alkalinity pH control	Cansamara United
Maxcat-N	Mixed metal silicate system	Systems	Barroid
MD	Biodegradable drilling fluid detergent	Surface Active Agents	Baker Hughes Inteq
MF 30 L	Liquid polyacrylamide	Flocculants	Marquis Fluids
MF 30L	Liquid polyacrylamide	Shale Control Inhibitors	Marquis Fluids
MF BASEal	Filtrate reducer additive	Filtrate Reducers	Marquis Fluids
MF Basemul	Surfactant	Surface Active Agents	Marquis Fluids
MF Emul	Primary emulsifier	Surface Active Agents	Marquis Fluids
MF Pac LV	Polyanionic cellulose	Filtrate Reducers	Marquis Fluids
MF Pac R	Polyanionic cellulose	Filtrate Reducers	Marquis Fluids
MF Rimpak	Pipe equipment protector	Surface Active Agents	Marquis Fluids



Mil -SDS	Hydrolized polyacrylonitrile	Flocculants	Baker Hughes Inteq
MI-503	Hydrolized polyacrylamide	Shale Control Inhibitors	Baker Hughes Inteq
MI-Starch	Pregelatinized starch	Filtrate Reducers	Baker Hughes Inteq
MilPolymp	Sulfonated styrene, maleic anhydride co-polymer for water based muds	Thinners, Dispersants	Baker Hughes Inteq
Milsperse	Pure oil fluid loss agent	Filtrate Reducers	Concord Drilling Fluids
Mix II	Blended calcium carbonate & polymers	Lost Circulation Material	MI Swaco-Federal
MOLY II	Ground cellulose LCM & plugging agent	Lost Circulation Material	MI Swaco-Federal
Moe Pac	Premium polyanionic cellulose	Filtrate Reducers	MI-Fluvine Solutions
Mon Pac Ultrale	Premium polyanionic cellulose	Filtrate Reducers	MI-Fluvine Solutions
MRO 2100PS	Potassium silicate based mud	Systems	Marquis Fluids
MTL Bio-Clean 2000	DBHPA	bactericides	Millenium Technologies Ltd.
MTL Formtech	Defoamer for foam systems	defoamer	Millenium Technologies Ltd.
MTL Power Clean 2000	Alkalinity/pH control	Surface Active Agents	Millenium Technologies Ltd.
MTL Starshield	Methanol/ammonium	Shale Control Inhibitors	Millenium Technologies Ltd.
MTL Ultra Breche	Deep surfactant sack	Surface Active Agents	Millenium Technologies Ltd.
MTL Versatherm	Foaming agent	Foaming Agents	Millenium Technologies Ltd.
MTL Ultraclean ABT	Corrosion inhibitor	corrosion inhibitor	Millenium Technologies Ltd.
MTL Ultraclean 5000	H2S scavenger & corrosion inhibitor	Weighting Inhibitor	Millenium Technologies Ltd.
Mud Man	HMW anionic fluorocarbon	Flocculants	Millenium Technologies Ltd.
Mud Floc II D	Dispersible selective flocculant	Flocculants	Dri-Chem Supply Ltd.
Mud Lite	Enhanced foam surfactant	Surface Active Agents	Canamera United
Mud-Pac	Corrosion inhibitor for solids laden packer fluids	corrosion inhibitor	CMiga Solutions
Mul Rheme	wetting agent/emulsifier	emulsifier	Baker Hughes Inteq
Mulsperse	Surfactant	Surfactants	Sun Drilling Products
National Gel	Wyoming bentonite	Viscosifiers	Sun Drilling Products
N-Dril HT Plus	Stabilized non-ionic starch	Filtrate Reducers	All
New 10ll Invert	Salt-free invert	Systems	Baroid
New Thin	Liquid polymer/ase	Thinners, Dispersants	Newpark Drilling Fluids
New-Trol	Liquid PHPA	Shale Control Inhibitors	Baker Hughes Inteq
NewDrill Plus	PHPA	Shale Control Inhibitors	Baker Hughes Inteq
NewFoam	Surfactant blend	Foaming Agents	Baker Hughes Inteq
Newfoam Breaker	Defoamer for foam systems	defoamer	Newpark Drilling Fluids
Newgel	Wyoming bentonite	Viscosifiers	Newpark Drilling Fluids
Newlig	Lignite	Thinners, Dispersants	Newpark Drilling Fluids
Newphpa LV	LMW dispersible PHPA	Shale Control Inhibitors	Newpark Drilling Fluids
New-Trol	Sodium Polycrylate	Filtrate Reducers	NewDrill Drilling Fluids
New-Vis	Organic polymer blend	Viscosifiers	Baker Hughes Inteq
			Baker Hughes Inteq

Newcan	Xanthan gum	Viscosifier	Newpark Drilling Fluids
N Flow A	In-situ acid breaker system	Polymer Reactors	Baroid
N-Flow AF	In-situ oxidizer/activity breaker system	Polymer Reactors	Baroid
N Flow AO	In-situ oxidizer/activity breaker system	Polymer Reactors	Baroid
Ni-Emk	Blend surfactants	Surface Active Agents	All
Novamod	Rheology modifier	Viscosifiers	MH Swaco/Federal
Novamul	Primary emulsifier for synthetic inverts	emulsifier	MJ Swaco/Federal
Novaplus	Low-toxicity IO synthetic based mud	Systems	MH Swaco/Federal
Novarm	Olefin-base synthetic mud	Systems	MJ Swaco/Federal
Novatec	LAO base synthetic mud	Systems	MH Swaco/Federal
Novatec B	LAO base fluid	Drill Mud Base Fluids	MJ Swaco/Federal
Novatec M	Low-end rheology modifier	Viscosifiers	MJ Swaco/Federal
Novatec P	Primary emulsifier for Novatec system	emulsifier	MJ Swaco/Federal
Novothin	Thinner for synthetic invert emulsions	Thinners, Dispersants	MH Swaco/Federal
Nuvamul	Wetting agent	Surface Active Agents	MJ Swaco/Federal
N Flex	Liquid alkaline salt	Lost Circulation Material	baroid
N-Seal	Specially formulated extrusion material	Lost Circulation Material	Baroid
NuSqueeze	Sized cellulose fibers in a non-damaging polymer base	Lost Circulation Material	baroid
Nut Plug	Ground materials	Lost Circulation Material	MJ Swaco/Federal
Nut Shell	Ground nutshells	Lost Circulation Material	Canamera/Fullmax
Nxtra P Plus	Xanthan/non-ionic starch blend	Viscosifiers	Baroid
O S T Pill	Oil spotting mud polymer system	Lost Circulation Material	Brine-Add Fluids
Omaze	acidized oil base current pill	emulsifier	MJ Swaco/Federal
Omni 2000	Modified organophilic clay	Viscosifiers	Canamera United
Omniverba	Organic emulsifier	emulsifier	Brine-Add Fluids
OMJC	Detergent for organophilic clays	Thinners, Dispersants	baroid
Omni-Flex	High performance/non-ionic synthetic CaCl2 hydrocolloid	Viscosifiers	Baker Hughes Inteq
OMV-100	Organophilic clay	Viscosifiers	Canamera United
Optimul	Primary emulsifier	emulsifiers	Newpark Drilling Fluids
Omplus	Secondary emulsifier	emulsifier	Newpark Drilling Fluids
Optiwet	Oil mud wetting agent	emulsifier	Newpark Drilling Fluids
Organonag	Quaternary amine for Oil and Synthetic Muds	Fibrous Additives	Drilling Specialties Co.
Orn Defoamer	Oil Soluble resin scrub defoamer	defoamer	Canamera United
Oxygen Scavenger (OS-1L)	Ligand-based ammonium Nitrate	corrosion inhibitor	MH Swaco/Federal
Pac L	Polyanionic cellulose	Fibrous Reducers	Baroid
Pac-R	Polyanionic cellulose	Fibrous Reducers	Baroid
Paliustar		Thinners	Various

Paramul	Emulsifier for Paraland system	emulsifier	M-I Swaco/Federal
Paramul	Emulsifier for Paraland system	emulsifier	M-I Swaco/Federal
Paline	Ferrochrome lignosulfonate	Thinners, Dispersants	Reed Chemicals
Parinix	Chrome lignosulfonate	Thinners, Dispersants	Georgia Pacific
Pathinz CF	Chrome-free lignosulfonate	Thinners, Dispersants	Georgia Pacific
Perflubex	ROP enhancer	Lubricants	Baker Hughes Inteq
Petrol 040	Anionic Polyacrylamide(PHPA)	Flocculants	Ciba Specialty Chemicals
Performdrill	Highly inhibitive clay-free WBM	Systems	Baroid
Performax	High performance inhibitive WBM	Systems	Baker Hughes Inteq
Perma-Lose HT	Non-fermenting polymerized starch	Filtrate Reducers	Baker Hughes Inteq
Perma-thinz	Chrome-free lignosulfonate	Thinners, Dispersants	Georgia Pacific
PH-10	Buffer system magnesium oxide	alkalinity pH control	Brine-Add Fluids
Phennseal	Thermoset laminate	Lost Circulation Material	Flowline Solutions
Pine Seal	Fibrous flake and granular LCM	Lost Circulation Material	Bri-chem
Pipe Free Agent		Lost Circulation Material	Drilling Specialties Co.
Pipe Free Agent	Spotting agent	Lubricants	Millenium Technologies Ltd.
Pipe Lax	Stuck pipe surfactant	Surface Active Agents	M-I Swaco/Federal
Pipe Out	Spotting agent	Surface Active Agents	Bri-Chem Supply Ltd.
Plaktor	Starch System (100% Gypsum/Calcium Source		various
Pipelax W	Anionic surface active agent	Lubricants	M-I Swaco/Federal
Plug-Git	Processed cedar fiber	Lost Circulation Material	Baroid
Plugsal	Sized salt water-soluble bridging	Lost Circulation Material	Brine-Add Fluids
Plus-6	Hematite - iron oxide	Weighting Materials	Brine-Add Fluids
Poldril	Polymer blend	Viscosifiers	Brine-Add Fluids
Polheal	Polymer blend	Filtrate reducers	Brine-Add Fluids
Poly Bock	Blended LCM for vugular & cavernous formations	Lost Circulation Material	Drilling Specialties Co.
Poly Flake	Polyethylene/polycellulose flakes	Lost Circulation Material	Canamara United
Poly Plug Clear Gel	Blended lost circulation plug	Lost Circulation Material	AB/Canamara United
Poly Seal	Polyethylene/polycellulose flakes	Lost Circulation Material	Ad
Polyac	Broad range filtrate reducer	Filtrate Reducers	Baroid
Polydrill	100% synthetic fluidloss additive	Filtrate Reducers	Canamara United
Polypit		Flocculants	JSB Resources Ltd
Polyloss	Derivatized starch blend	Filtrate Reducers	Concord Drilling Fluids
Polypac (reg, UL)	Polyanionic cellulose	Viscosifiers	M-I Swaco/Federal
Polypac R	Polyanionic cellulose	Filtrate Reducers	M-I Swaco/Federal
Polypac UL	Ultra low viscosity pac	Filtrate Reducers	M-I Swaco/Federal
Poly Plastic	Proprietary liquid blend of sodium polyacrylate, lignosulfonate, lignite	Bentonite extender	ISF/Technifluids

Polyplus	HMW anionic polyacrylamide	Ammonia	M-I Swaco/Federal
PolyLube KD	Hydrolyzed polyacrylamide	Shale Control Inhibitors	M-I Swaco/Federal
Polysec KD	Sodium Polyacrylate	Bentonite extender	American Colloids
Polyzan	Anti-accretion system designed for BAGD	Systems	CMax Solutions
PolyVis	Polymer, alkoxy carbonated	Ferrite Reducers	Drilling Muds
Polyvis	Powder thinner (extreme conditions)	Thinners, Dispersants	Consumers United
Poly-Vis II	Mixed metal hydroxide	Viscosifiers	Consumers United
Poly-Xan	Degradable grade xanthan#757 gum	Viscosifiers	Consumers United
Potash	Potassium chloride (KCL)	Shale Control Inhibitors	Consumers United
Potassium Formate	KCOOH	Shale Control Inhibitors	All
Potassium Soltex	Potassium sulfonated asphalt	Shale Control Inhibitors	Consumers United
Potassium Sulphate	K2SO4	Shale Control Inhibitors	Applying Specialties
Powergel	Inhibitive water	Systems	All
Preservative	Starch system (1867)		Newpark Drilling Fluids
Prima Seal CM	Blended LCM	Lost Circulation Material	
Primary Emulsifier	Oil mud primary emulsifier	emulsifier	Consumers United
Prolec	Polyacrylate - FTPA blend	Bentonite extender	Bri-Chem Supply Ltd.
Pro-Dac	Polyacrylamide	Fluorosorbs	Pedro Mud
Prolactomeric M	Water dispersible achorian	Shale Control Inhibitors	Newpark Drilling Fluids
Prolactomeric LT	Dispersive suspension of oil blended asphalt	Shale Control Inhibitors	Baker Hughes Inteq
PTS-200	HT polymer stabilizer	Polymer Stabilizers	Baker Hughes Inteq
Puraltol HT-80	Enhanced mineral oil	Drill Mud Base Fluids	M-I Swaco/Federal
Puraltol HT-90	Enhanced mineral oil	Drill Mud Base Fluids	Petroceanic
Puraltol M 36	Synthetic paraffins	Drill Mud Base Fluids	Petrocanada
Puraltol IA-36 LV	Synthetic esters/ether	Drill Mud Base Fluids	Petrocanada
Puraltol OE	Synthetic ester blend	Drill Mud Base Fluids	Petrocanada
Pyro-Trol	Copolymer acrylamide AMPS	Drill Mud Base Fluids	Petrocanada
QM-12	Potassium silicate	Filtrate Reducers	Baker Hughes Inteq
QMul I	Primary emulsifier for mineral oil inverts	Shale Control Inhibitors	QMax Solutions
QMul II	Secondary emulsifier for mineral oil inverts	emulsifier	QMax Solutions
QMul Primary	Primary emulsifier for SBMs	emulsifier	QMax Solutions
QMul Secondary	Secondary emulsifier for SBMs	emulsifier	QMax Solutions
Qmac	PAC	emulsifier	QMax Solutions
Qmod	Sized cellulose fiber	emulsifier	QMax Solutions
Quikgrit	Solids free non damaging soil lubricity (fluid	Filtrate Reducers	QMax Solutions
Quik-Foam	biodegradable foaming agent	Lost Circulation Material	QMax Solutions
Quik-Free	Spotting fluid concentrate	Systems	Barold
		Foaming Agents	Barold
		Lubricants	Barold

Quik-Gel	High yield bentonite	Weighting	Baroid
Quik-Mud	Suppression of contaminant interactions	Viscosifiers	Rheiet
Quik-Trol	Ferrochrome lignosulfonate	Thinners, Dispersants	Baroid
Quik-vis	Organic polymer	Shale Control Additives	Baroid
Quik-Yld	Organic polymer	Viscosifiers	Benoid
Quick VIS	Hydroxyethyl cellulose	Viscosifiers	OSCA
QVis L	Liquid polymeric viscosifier	Viscosifiers	Chem. Services
QVis	Oil wetting agent	Surface Active Agents	Chem. Solutions
Qmikihin CF	Modified sulfo-methylated quebracho	Thinners, Dispersants	All/Chemex Solutions
R.O.P.E.	Polyalkylene lubricant	Lubricants	Sun Drilling Products
Rapidgreen EME Salt		Lubricants	Nuvate Fluids
Rapidrill	Water-based gilsonite/lubricant system	Systems	Sun Drilling Products
Rebound	Resilient carbon based LCM	Lost Circulation Material	Drilling Specialties Co.
Rebound Fine	Resilient carbon based LCM	Lost Circulation Material	Drilling Specialties Co.
Reef Floc	PHPA	Flocculants	Reef Drilling Fluids
Reef Pac	Polyanionic Cellulose	Filtration and Fluid loss control	Reef Drilling Fluids
Reef Polymer Plus	Copolymer of sodium acrylate & acrylamide	Rheologic	All
Resilnex	Reactivated lignin	Fibrous Reducers	MI Swaco/Federal
Resilnex II	Tech grade reactivated lignin	Fibrous Reducers	MI Swaco/Federal
Rhamod L	Modified fatty acid	Viscosifiers	Baroid
Rheolis	Blended polymer	Viscosifiers	Bri-Chem Supply Ltd.
Rheodpal 28 P	Polysaccharide polymer	Viscosifiers	Bri-Chem Supply Ltd.
Rheotrol XCD	Polysaccharide polymer	Viscosifiers	Bri-Chem Supply Ltd.
RM 63	Blend of fatty acids	Viscosifiers	Baroid
Rubber Crumb	Ground Rubber	Lost Circulation Material	Ceramers Limited
Safe Poly OM	Blend of surfactants and solvents	Surface Active Agents	MJ Swaco/Federal
Safe Surfo	Blend of polymers and surfactants	Surface Active Agents	MI Swaco/Federal
Safecarb	Mixed calcium carbonate	Lost Circulation Material	MI Swaco/Federal
Safe-Carb	Mixed calcium carbonate	Weighting Materials	MI Swaco/Federal
Safe-T-Coat	Amine inhibitor	corrosion inhibitor	Bri-Chem Supply Ltd.
Safe-Vis	Amine type inhibitor	mannonm inhibitor	Ceramers Limited
Salt	NaCl	Weighting Materials	All
Salt Gel	Prehydrated capable	Viscosifiers	All
Salt Water Gel	Attapulgite	Viscosifiers	Baker Hughes Inteq
Salt Wtr Pill	Calcium carbonate polymer system	Lost Circulation Material	Drilex/Add Fluids
Sapp	Sodium acid pyrophosphate	Thinners, Dispersants	All
Sawdust	Sawdust	Lost Circulation Material	All

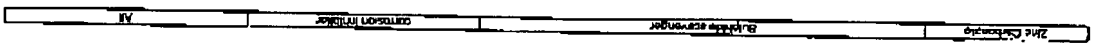
Sta-Mix	Liquid scale prevention	corrosion inhibitor	Baker Hughes Inteq
Stat-N-Peel	Fluid loss control pill	systems	MJ Swaco/Federal
Secondary Emulsifier	Oil mud secondary emulsifier	emulsifier	Bri-Chem Supply Ltd.
Separan	Polyacrylamide (Gel-Chem mud system)	Flocculants	Gel-Chem
Set-Up	Liquid polymeric viscosifier	Viscosifiers	Millenium Technologies Ltd.
Shale Bond	Water dispersible particle-plasticizer	Shale Control Inhibitors	Baker Hughes Inteq
Shearcon-N	Solids free modified polymer fluid system	Systems	Bagrid
Silus	Potassium nitrate emulsified drilling fluid	Systems	MJ Swaco/Federal
Simple Seal	Calcium borehalide polymer system	Lost Circulation Material	Brine-Add Fluids
Simplesal	Calcium carbonate base workover system	Filtrate Reducers	Brine-Add Fluids
Smart plug	Blended LCM	Lost Circulation Material	Sun Drilling Products
SN-1050	Synthetic base oil used in Systems system	Drill Mud base Fluids	Baker Hughes Inteq
Soda Ash	Sodium Carbonate	calcium remover	All
Sodium Chromate	$Na_2CrO_4.H_2O$	corrosion inhibitor	All
Sodium Formate	High density brine	Weighting Materials	Canamera Limited
Sodium Sulfide	HT polymer stabilizer	Polymer Stabilizers	All
Sodium Sulphite	Oxygen scavenger	corrosion inhibitor	All
Sulfaq	Sodium aliphatic sulphonate	Shale Control Inhibitors	All/Drilling Specialties
Sol-Bridge	Straight oil-soluble resins	Lost Circulation Material	Brine-Add Fluids
Solubrid-N	Mixed salt polymer system	Systems	Baroid
Solutase	Refined calcium sulphate	Lost Circulation Material	Baker Hughes Inteq
Solvaxyl	Oil soluble resin base workover fluid	Filtrate Reducers	Brine-Add Fluids
Soltex	Acid-soluble high fluid loss LCM squeeze	Lost Circulation Material	Baker Hughes Inteq
Solvus	Polymer & blend resins	Viscosifiers	Brine-Add Fluids
Spacer Seal	Polyester fibre	Lost Circulation Material	Canamera Limited
Spansan	Barite/Barium	Weighting Agent	All
Spansana DF	Chrome-free lignosulfonate	Thinning, Dispersants	MJ Swaco/Federal
Stabfix K	Cationic organic maturation inhibitor	Shale Control Inhibitors	All/Bri-Chem Supply Ltd.
Stabfix Dry n Supreme	Low viscosity PAC	Filtrate Reducers	Canamera/Hallimex
Stafix Regular	Polyanionic cellulose	Filtrate Reducers	Canamera/Hallimex
Stanamit	Tetradecyl Ammonium Chloride	Shale Inhibitor	Torqedon
Standrill	Filtration control LWD	Filtrate Reducers	All
Starfree	Modified starch with biocide	Filtrate Reducers	All
Starpak DF	Non-fermenting derivatized starch	Filtrate Reducers	All
Steelseal	Dual composition vacuum material	Lost Circulation Material	Baroid
Stop-n-Ita	Blended LCM	Lost Circulation Material	Baroid
Sulfatex	Sulfonated asphalt	Shale Control Inhibitors	Baker Hughes Inteq

Sun CC	Coupled glycerin-based dispersant	Shale Control Inhibitors	Sun Drilling Products
Super Floc	Dynamic Polymer	Flocculants	All
Super Sweep	Treated polypropylene fiber	Viscosifiers	Federal Wholesale/Millennium
Super-Col	Extra high yield bentonite	Viscosifiers	Baker Hughes Inteq
Superlig	Lignite	Thinners, Dispersants	Ceramens United
Superwet 20V	Non-ionic water wetting Agent	Surface Active Agents	Brine-Add Fluids
Surf-Cote/Omni-Cote	Oil wetting agent	emulsifier	Baker Hughes Inteq
Suspendase	Organophilic viscosifier fibrils	Viscosifiers	Barold
Sweep-Wate	Biodiversity sized barite for high density applications	Weighting Materials	Barold
Syntal Utrol C-Cp	Chloride free amine inhibitor	Shale Control Inhibitors	All/Synergrchem
Synermill FR-1	Acrylamide AMPS co-polymer	Filtrate Reducers	All / Synerchem
Synermill FR-2	Sulfonated resin	Filtrate Reducers	All / Synerchem
Synermix Plus	Poly DADMAC	Flocculants	All/Synerchem
Synermpc D7 I 61	Cationic Co-polymer	Flocculants	All/Synerchem
Synerpac PAC-R	Polyamine	Flocculants	All/Synerchem
Synerflow	Xanthan/guar gum blends	Viscosifiers	Synerchem
Synerflow S	Scleroglucan	Viscosifiers	Synerchem
Synerwet	Surfactant blend	Foaming Agents	Synerchem
Synermix K6	Potassium formate	Shale Control Inhibitors	All/Synerchem
Synerplex	MMH	Viscosifiers	Synerchem
Synerxanvis	Liquid/dry UMW polymers	Thinners, Dispersants	All/Synerchem
Synervis 33-30	Lignin thinner polyacrylate	Thinners, Dispersants	All/Synerchem
Synerthin EX	Powder thinner polyacrylate	Thinners, Dispersants	All/Synerchem
Synervis	Guar gum	Viscosifiers	All/Synerchem
Synervis L	Guar gum liquid	Viscosifiers	All/Synerchem
Synerxan	Xanthan gum	Viscosifiers	All/Synerchem
Synerxan D	Dispersible xanthan gum	Viscosifiers	All/Synerchem
Synerxan L	Xanthan liquid	Viscosifiers	All/Synerchem
Systhrin	Low viscosity synthetic olefin isomer organic fluid	Viscosifiers	All/Synerchem
T-368	Glutaraldehyde	Systems	Baker Hughes Inteq
Tanflo/Tannax		bactericides	All
Tar-Clean		Thinner	All
Temperus	Anti-accretion for filtrates	Surface Active Agents	Mid Seaco/Federal
Teq Detergent 20L	Suspension agent for oil based and synthetic muds	Viscosifiers	Barold
Teq Flow HD	water-soluble, biodegradable detergent/degreaser	Surface Active Agents	Baker Hughes Inteq
Teq-Thin	High mol. Wt. Anionic dispersible PHPA	Flocculants	Baker Hughes Inteq
Thermo Check	Chrome-free lignosulfonate	Thinners, Dispersants	Baker Hughes Inteq
	Extreme HT filtrate reducer	Filtrate Reducers	Barold

Therma Vis	Extreme high bentonitic extender	Viscosifiers	Baroid
Thermpac UL	Carboxymethyl starch	Filtrate Reducers	M-I Swaco/Federal
Therma-Thin	Extreme high-temp reducer/dispersant	Thinners, Dispersants	Baroid
Thermasafe	High temperature stabilizer	Polymer Stabilizers	Brine-Add Fluids
Thikgum	No fish-eye stabilized HEC	Viscosifiers	Brine-Add Fluids
Thikquik-L	Liquid dispersed HEC	Viscosifiers	Brine-Add Fluids
Thin-Tex	Modified lignosulphonate	Thinners, Dispersants	Canamara United
Thinza	Oil mud dispersant	Thinners, Dispersants	Canadian Drilling Fluids
Thix	Blend of polymers	Viscosifiers	Brine-Add Fluids
Thix-Pak	Stabilized thixotropic polymer	Viscosifiers	Brine-Add Fluids
Thixsal	Polymer blend for suspending micro-sized salt	Viscosifiers	Brine-Add Fluids
Tol-lube	Non-toxic lubricating agent	Lubricants	All
Torq 2000	Non-foaming vegetable oil-based lubricant	Lubricants	Canamara United
Torq Reducer	Liquid lubricant	Lubricants	Dril-Chem Supply Ltd.
Torq-Glide	Non-foaming ether based lubricant	Lubricants	Canamara United
Torq-Lube	Liquid Glycol-base	Lubricants	Canamara United
Torq-Trim II	Alcohol Amide	Lubricants	Canamara United
Torq-Trol II	Sulfonated vegetable oil	Lubricants	Baroid
Torque-less	Friction reducing glass beads	Lubricants	Canamara United
TR00	Sulfonated vegetable oil	Lubricants	Baroid
Transfoam	pH controlled foam system	Lubricants	Dril-Chem Supply Ltd.
Trimulso	Oil in water emulsifier	Systems	Weatherford
Trimulso	Oil in water emulsifier	emulsifier	Baroid
Truoil	All oil OBM	Surface Active Agents	Baroid
Truvis	Rapid yield organophilic clay	Systems	M-I Swaco/Federal
TS001	Lignosulfonate complex	Viscosifiers	M-I Swaco/Federal
Turbolink	Liquid polymer mud system	Filtrate Reducers	Brine-Add Fluids
Turbovis	Liquid polysaccharide polymer	Systems	Newpark Drilling Fluids
Tylose	Hydroxyethyl Cellulose	Viscosifiers	Newpark Drilling Fluids
Ultra Seal C	Coarse ground cellulose	Viscosifiers	Clariant
Ultra Seal Plus	Medium ground cellulose	Lost Circulation Material	All
Ultra Seal XP	Fine ground cellulose	Lost Circulation Material	All
Ultrabreak M	Internal breaker for filter cake	Lost Circulation Material	All
Ultracap	Polymeric shale inhibitor	Polymer Breakers	Brine-Add Fluids
Ultradril	High performance WBM	Shale Control Inhibitors	M-I Swaco/Federal
Ultraglide Beads	Linked benzene styrene co-polymer	Systems	M-I Swaco/Federal
Ultraglide XLT	Non-foaming liquid	Lubricants	Millenium Technologies Ltd
		Lubricants	Millenium Technologies Ltd.

Ultrahib	Shale inhibitor	Shale Control Inhibitors	M-I Swaco/Federal
Uni-Cal	Chrome lignosulfonate	Thinners, Dispersants	Baker Hughes Inteq
Unical CF	Chrome-free lignosulfonate	Thinners, Dispersants	Baker Hughes Inteq
Unifoam	Synergistic surfactant blend	Foaming Agents	Concord Drilling Fluids
Unipac	Polyanionic Cellulose	Fluid loss Reducer	Various
Unitrol	Modified starch	Filtrate Reducers	M-I Swaco/Federal
Valfre 110	Barium aluminosilicate	calcium remover	National Silicates
Vedseal	Blended LCM	Lost Circulation Material	Millenium Technologies Ltd.
Versaclean	Mineral oil CaCl2 OBM	Systems	M-I Swaco/Federal
Versaclean D	Low toxicity SBM base oil	Drill Mud Base Fluids	M-I Swaco/Federal
Versacoat	Blended emulsifier and gelling agent	emulsifier	M-I Swaco/Federal
Versadril	Diesel calcium chloride OBM	Systems	M-I Swaco/Federal
Versadril B	Diesel & dirty mineral oils	Drill Mud Base Fluids	M-I Swaco/Federal
Versahrp	Liquid viscosifier & gellant for oil muds	Viscosifiers	M-I Swaco/Federal
Versalig	Modified lignite	Filtrate Reducers	M-I Swaco/Federal
Versamec	Emulsifier for high-brine content fluid	emulsifier	M-I Swaco/Federal
Versamod	Viscosity modifier	emulsifier	M-I Swaco/Federal
Versamod	Low shear rate modifier for oil muds	Viscosifiers	M-I Swaco/Federal
Versamul	Mineral oil emulsifier	emulsifier	M-I Swaco/Federal
Versapac	Thermally activated organic thixotrope	Viscosifiers	M-I Swaco/Federal
Versapro P/S	Primary emulsifier for Versapro system	emulsifier	M-I Swaco/Federal
Versathin	Oil mud dispersant	Thinners, Dispersants	M-I Swaco/Federal
Versatrol	Naturally occurring gilsonite	Filtrate Reducers	M-I Swaco/Federal
Versawet	Oil wetting agent for oil muds	emulsifier	M-I Swaco/Federal
Versawet	Wetting agent	Surface Active Agents	M-I Swaco/Federal
VG Supreme	Organophilic clay	Viscosifiers	M-I Swaco/Federal
VG-69	Organophilic clay	Viscosifiers	M-I Swaco/Federal
Viscom	Viscosifying polymer blend	Viscosifiers	Concord Drilling Fluids
Visplus	Thixotropic viscosifying polymer blend	Viscosifiers	Concord Drilling Fluids
Volclay	Bentonite	Viscosifiers	American Colloids
W O Defoam	Alcohol based defoamer	defoamer	Baker Hughes Inteq
Walnut Hulls	Ground Walnut shells	Lost Circulation Material	All
Weatherfoam 104	Polymer recyclable foam system	Systems	Weatherford
Weight Salt	Sized salt for density and fluid loss control	Weighting Materials	Brine-Add Fluids
Wellzyme A	Enzyme breaker with biocide	Polymer Breakers	M-I Swaco/Federal
Wellzyme AC	Enzyme breaker without biocide	Polymer Breakers	M-I Swaco/Federal
Western Poly	Polyethylene flake	Lost Circulation Material	Canamara United

Weight Agent	Oil mud weighting agent	emulsifier	Bri-Chem Supply Ltd.
WFT Transferase	gel controlled foam	Foaming Agents	Weatherford
WFT-C-100	UDD Initiators	corrosion inhibitor	Weatherford
WFT-C-200	UDD Initiators	corrosion inhibitor	Weatherford
WFT-C-300	UDD Initiators	corrosion inhibitor	Weatherford
WFT-C-400	UDD Initiators	corrosion inhibitor	Weatherford
WFT-DF-105	Defoamer for fluidbed system	defoamer	Weatherford
WFT-DF-1	Defoamer for non-aqueous foam system	defoamer	Weatherford
WFT-DT-110	Defoamer for low foam system	defoamer	Weatherford
WFT-F-100	Non-isocyanate foam	defoamer	Weatherford
WFT-F-104	Blended surfactants	Foaming Agents	Weatherford
WFT-HF-104	Liquid blended HEC	Foaming Agents	Weatherford
WFT-Oil Foam 200	Foaming agent for oil	Viscosifiers	Weatherford
WFT-PR-104	Liquid blended PAC	Foaming Agents	Weatherford
WL 100	Sodium polyacrylate	Viscosifiers	Weatherford
WO 20	hydroxyethyl cellulose with calcium carbonate	Filtrate Reducers	AM/Kelco Oilfield Group
WO 21L	Liquid HEC	Viscosifiers	Baker Hughes Inteq
Warming Gel	Sodium montmorillonite	Viscosifiers	Baker Hughes Inteq
X Pak-1	Tracer gilsonite	Viscosifiers	Canamara/Halliwax
Xandril	Semi-dispersible xanthan gum	Surfaces Active Agents	AM/Kelco Oilfield Group
Xan-Plex D	Readily dispersible xanthan gum polymer	Viscosifiers	Bri-Chem Supply Ltd.
Xanthan(Kelzan)	Xanthan gum	Viscosifiers	Baker Hughes Inteq
Xanvis	Clarified xanthan gum	Viscosifiers	All
Xanvis L	Liquid clarified xanthan gum	Viscosifiers	All/Kelco Oilfield Group
X-Cide 102W	Winterized Glutaraldehyde	Viscosifiers	All/Kelco Oilfield Group
X-Cide 207	Isothiazolone-based biocide powder	bactericides	Baker Hughes Inteq
XL-Delgamer	High Molecular Weight Alcohol Surfactant	bactericides	All
X-Link	Cross-linking polymer with blended LCM	defoamer	Canamara/Halliwax
XLR-Rate	ROP enhancer	Lost Circulation Material	Baker Hughes Inteq
X-Per G	Treated gilsonite	Lubricants	Barrett
XPC / T	Benzoic acid flakes	Shale Control Inhibitors	All/Kelco Oilfield Group
Zeogel	Attapulgite powder	Viscosifiers	Milpark Services
Zelan 7107	Liquid cationic coagulant	Viscosifiers	Benoid
Zelan 7557	Liquid low mol. Wt. Cationic coagulant	Flocculants	All / CIBA specialty chemicals
Zelan 7567	HMW charge cationic polyacrylamide	Flocculants	All / CIBA specialty chemicals
Zelan 7597	High medium charge cationic polyacrylamide	Flocculants	All / CIBA specialty chemicals
Zelan 7697	Very HMW medium charge cationic polyacrylamide	Flocculants	All / CIBA specialty chemicals



MATERIAL SAFETY DATA SHEET

QMAX SOLUTIONS INC.
#1700, 407 2ND STREET S.W., CALGARY, ALBERTA T2P 2Y3
TELEPHONE: (403) 269-2242 FAX: (403) 269-2251
1-613-996-6666 – CANUTEC – Transportation Emergency
1-888-243-9771 – ChEmS – Chemical Exposure

KIM MUD

SECTION I: IDENTIFICATION OF PRODUCT

Product Name: KIM MUD
Chemical Family: Blend of polysaccharide polymers,calcium carbonate, calcium lignosulfonate.
WHMIS Classification: Not controlled
Workplace Hazard: Not applicable
Product Use: Viscosifier
TDG Classification: Not regulated
Packaging Group: Not applicable
PIN: Not applicable

SECTION II: HAZARDOUS INGREDIENTS

Ingredients	Percent	CAS Number	LD_{50} (Species/Route)	LC_{50} (Species/Route)
None				

SECTION III: TOXICOLOGICAL PROPERTIES

Route of entry: ☐ Skin ☐ Eye Contact ☐ Inhalation ☐ Ingestion

Effects of acute exposure: Treat as nuisance dust. May cause mechanical irritation to the skin, eyes, and respiratory tract.

Effects of chronic exposure: No effects expected

Exposure limits: Not applicable

Irritancy of product: Irritant to skin, eyes and respiratory tract.

Sensitization to product: Not determined

Carcinogenicity: Not determined

Reproductive toxicity: Not determined

Teratogenicity: Not determined

Mutagenicity: Not determined

Name of toxicological synergistic products: Not determined

KIM MUD

SECTION IV: FIRST AID MEASURES

Skin contact: Wash skin for 5 minutes with soap and water. If irritation develops or persists seek medical attention.

Eye contact: Rinse eyes with water for 15 minutes. If irritation develops or persists seek medical attention.

Inhalation: Remove to fresh air. If not breathing, administer CPR. Seek medical attention.

Ingestion: Give victim 1-2 glasses of water. Do not induce vomiting. Seek medical attention.

SECTION V: PHYSICAL DATA

Physical state: Solid.

Appearance and odour: Dry Tan Powder. Odorless

Odour threshold: Not applicable

Specific gravity (°C): 1.85

Vapor pressure (mmHG): Not applicable

Vapor density (Air=1): Not applicable

Evaporation rate: Not applicable

Boiling point (°C): Not determined

Freeze/Melting point (°C): Not determined

pH (%): 7.5 (2.0% Slurry)

Co-efficient of water/oil distribution: Not applicable

KIM MUD

SECTION VI: FIRE AND EXPLOSION DATA

Conditions of flammability: Not applicable

Means of extinguishing: Water, Water fog, Foam, chemical and CO2

Flash point: Not applicable

Upper flammable limit: Not applicable

Lower flammable limit: Not applicable

Auto-ignition temperature: Not applicable

Hazardous combustion products: Not applicable

Explosion data-sensitivity to mechanical impact: Not applicable

Explosion data-sensitivity to static discharge: Not applicable

SECTION VII: REACTIVITY DATA

Chemically unstable (conditions): Stable.

Product incompatible with: Strong Acids and Oxidizing Agents.

Conditions of reactivity: Not known

Hazardous decomposition products: COx

KIM MUD

SECTION VIII: PREVENTATIVE MEASURES

Personal protective equipment: Suggest NIOSH approved dust mask; nuisance dust. Suggest chemical resistant gloves and safety glasses.

Specific engineering controls: General mechanical ventilation.

Procedures for leak/spills: Vacuum or sweep-up if dry. If wet, pick up with dry material such as sand or dirt. Avoid flushing with water as material may become extremely slippery.

Waste disposal: Dispose of material in accordance with local ordinances. Landfill is suggested.

Handling procedures and equipment: Avoid ingestion. Practice reasonable caution and personal cleanliness. Avoid skin and eye contact.

Storage requirements: Not applicable

Special shipping information: Not applicable

SECTION IX: PREPARATION

Date updated: March 28, 2007

Prepared by: Product Safety Committee

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1-613-996-6666 – CANUTEC – Transportation Emergency
1-888-243-9771 – CHEMTREC – Chemical Exposure

Q'CLEAN

SECTION I: IDENTIFICATION OF PRODUCT

Product Name: Q'CLEAN
Chemical Family: Petroleum Hydrocarbons
WHMIS Classification: B3;D1B,D2B
Workplace Hazard: Combustible liquid, poisonous Material

Product Use: Oil mud product
TDG Classification: Not applicable
Packaging Group: Not applicable
PIN: Not applicable

SECTION II: HAZARDOUS INGREDIENTS

Ingredients	Percent	CAS Number	LD_{50} (Rat/Oral)	LC_{50} (Rat/Inh)
Mixture of Petroleum Hydrocarbons	100	64741-44-2	>5 gm/kg	1.72 mg/L 4 hrs.

SECTION III: TOXICOLOGICAL PROPERTIES

Route of entry: ☒ Skin ☒ Eye Contact ☒ Inhalation ☒ Ingestion

Effects of acute exposure: Not applicable

Effects of chronic exposure: Not applicable

Exposure limits: Not applicable

Irritancy of product: Irritation, defatting and drying of skin. Prolonged exposure to skin may cause chapping, cracking or possibly dermatitis. May cause irritation, but not permanent damage.Inhalation of vapors or mist will cause headaches, nausea, dizziness and intoxication; severe central nervous systems depressant.

Sensitization to product: Not available

Carcinogenicity: Not available

Reproductive toxicity: Not available

Teratogenicity: Not available

Mutagenicity: Not available

Name of toxicological synergistic products: Not available

Q'CLEAN

SECTION IV: FIRST AID MEASURES

Skin contact: Remove contaminated clothing – launder before re-use. Wash with soap and water. Discard saturated leather articles.

Eye contact: Copious warm water flush – 15 minutes. Physician assessment mandatory.

Inhalation: Evacuate to fresh air. Apply cardio-pulmonary resuscitation if required. Administer oxygen if available. If resuscitation is required, physician assessment mandatory.

Ingestion: DO NOT INDUCE VOMITTING. If vomiting – take care to prevent aspiration. Give 250 ml (½ pint) of milk to drink. Liquid paraffin may slow gastric absorption. Give activated charcoal tablets only if prescribed by physician. Physician assessment mandatory.

SECTION V: PHYSICAL DATA

Physical state: Liquid

Appearance and odour: Clear and colorless hydrocarbon odour.

Odour threshold: Not applicable

Specific gravity: 0.90

Vapor pressure (mmHG): <1 kPa

Vapor density (Air=1): 4.5 (approximately)

Evaporation rate: Not applicable

Boiling point (°C): 204 - 371°C (approximately)

Freeze/Melting point (°C): Not applicable

pH: Not applicable

Co-efficient of water/oil distribution: Insoluble

Q'CLEAN

SECTION VI: FIRE AND EXPLOSION DATA

Conditions of flammability: Will not occur under normal conditions. Treat as flammable liquid.

Means of extinguishing: Foam, dry chemical, water spray, carbon dioxide for small fires. Do not cut, drill or weld empty containers.

Flash point: 94°C

Upper flammable limit: 6% by volume

Lower flammable limit: 0.7% by volume

Auto-ignition temperature: >225°C

Hazardous combustion products: CO_x, So_x, smoke.

Explosion data-sensitivity to mechanical impact: Not applicable

Explosion data-sensitivity to static discharge: Not applicable

SECTION VII: REACTIVITY DATA

Chemically unstable (conditions): Stable.

Product incompatible with: Strong oxidizing agents (strong acids, peroxides, and chlorine)

Conditions of reactivity: Excessive heat, sources of ignition, formation of oil mist.

Hazardous decomposition products: Co_x, So_x, smoke on combustion.

Q'CLEAN

SECTION VIII: PREVENTATIVE MEASURES

Personal protective equipment: Up to 5 mg/m3 (oil mist) none required. From 5 to 50 mg/m3, use an approved organic vapor respirator suitable for oil mist in areas with sufficient oxygen. Above 50 mg/m3, use full-face air-supplied or self-contained breathing apparatus. Chemical goggles if splashing is likely. Nitrile, Viton Chemical resistant clothing, if direct contact with liquid likely. DO NOT USE NATURAL RUBBER or PVC (Polyvinyl chloride)

Specific engineering controls: General ventilation. Use explosion-proof mechanical ventilation suitable for group D atmosphere.

Procedures for leak/spills: Avoid contact. Use full protective equipment and breathing apparatus. ELIMINATE IGNITION SOURCES. Contain spill. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using electrically grounded explosion-proof pumps. Place absorbent in closed metal containers. DO NOT FLUSH TO SEWER.

Waste disposal: Incinerate at licensed waste reclaimer facility.

Handling procedures and equipment: AVOID SKIN CONTACT and INHALATION. Practice good personal hygiene. DO NOT SIPHON BY MOUHT OR USE AS A CLEANING SOLVENT. Launder work clothes frequently. Allowable exposure of 5 mg/m3 (oil mist) when handling.

Storage requirements: Store in cool, well-ventilated area. Electrically ground/bond during the pumping or transfer to avoid static accumulation.

Special shipping information: Not applicable

SECTION IX: PREPARATION

Date updated: January 1, 2005

Prepared by: Product Safety Committee

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1-888-243-9771 – ChEmSS – Chemical Exposure

STABLE K

SECTION I: IDENTIFICATION OF PRODUCT

Product Name: STABLE K
Chemical Family: Amines
WHMIS Classification: D-2B
Workplace Hazard: Skin and eye irritant

Product Use: Shale stabilizer
TDG Classification: Not applicable
Packaging Group: Not applicable
PIN: Not applicable

SECTION II: HAZARDOUS INGREDIENTS

Ingredients	Percent	CAS Number	LD_{50} (Species/Route)	LC_{50} (Rat/Inh)
Organic Amine	30-60	124-09-4		1400 -2800 mg/kg

SECTION III: TOXICOLOGICAL PROPERTIES

Route of entry: ☐ Skin ☒ Eye Contact ☒ Inhalation ☒ Ingestion

Effects of acute exposure: May cause slight irritation and/or redness, respiratory irritation, nausea and vomiting

Effects of chronic exposure: Prolonged exposure with skin may cause burning

Exposure limits: Not applicable

Irritancy of product: Irritation of respiratory tract irritation on skin develops slowly after contact. Eye irritation develops immediately upon contact. Ingestion of liquid may cause gastrointestinal distress, irritation and possibly nausea with vomiting

Sensitization to product: Not known as a sensitizer

Carcinogenicity: Not considered to be a carcinogen

Reproductive toxicity: None known

Teratogenicity: Not known as a tetratogen

Mutagenicity: Not known as a mutagen

Name of toxicological synergistic products: None known

STABLE K

SECTION IV: FIRST AID MEASURES

Skin contact: Wash thoroughly with soap and water

Eye contact: Flush immediately with plenty of water for at least 15 minutes. Get emergency medical aid.

Inhalation: Remove victim to fresh air, and if needed give oxygen if breathing is labored. Get emergency medical aid.

Ingestion: Do not induce vomiting. Give 2-4 glasses of water to drink

SECTION V: PHYSICAL DATA

Physical state: Liquid.

Appearance and odour: Liquid, clear solution, odourless

Odour threshold: Not available

Specific gravity: 1.06

Vapor pressure (mmHG): Not available

Vapor density (Air=1): Not determined

Evaporation rate: Not available

Boiling point (°C): >100

Freeze/Melting point (°C): Not applicable

pH: 9-10

Co-efficient of water/oil distribution: Not applicable

STABLE K

SECTION VI: FIRE AND EXPLOSION DATA

Conditions of flammability: Does not burn or support combustion.

Means of extinguishing: Dry chemical, carbon dioxide, water

Flash point: >100 °C

Upper flammable limit: Not applicable

Lower flammable limit: Not applicable

Auto-ignition temperature: Not applicable

Hazardous combustion products: CO, CO_2, oxides of nitrogen

Explosion data-sensitivity to mechanical impact: Not known

Explosion data-sensitivity to static discharge: Not known

SECTION VII: REACTIVITY DATA

Chemically unstable (conditions): Stable.

Product incompatible with: Strong oxidizing agents

Conditions of reactivity: None known

Hazardous decomposition products: Smoke, carbon dioxide, carbon monoxide and oxides of nitrogen are produced from fire

STABLE K

SECTION VIII: PREVENTATIVE MEASURES

Personal protective equipment: Use chemical goggles or full face shield. Chemical resistant gloves. Use of an organic vapour type respirator is advised.

Specific engineering controls: Local exhaust in enclosed areas

Procedures for leak/spills: Small spills, pick up with absorbent material. Large spills, contain with dikes, pick up with vacuum truck.

Waste disposal: Follow applicable local, provincial, federal regulations.

Handling procedures and equipment: Avoid ingestion. Practice reasonable caution and personal cleanliness. Avoid skin and eye contact.

Storage requirements: Store in a cool, dry, well ventilated place. Keep container tightly closed and away from incompatible materials

Special shipping information: Not applicable

SECTION IX: PREPARATION

Date updated: April 01, 2005

Prepared by: Product Safety Committee

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1-888-243-9771 – ChExSS – Chemical Exposure

STARPAK DP

SECTION I: IDENTIFICATION OF PRODUCT

Product Name: STARPAK DP
Chemical Family: Modified starch
WHMIS Classification: Not applicable
Workplace Hazard: Not applicable
Product Use: Fluid loss reducer
TDG Classification: Not applicable
Packaging Group: Not applicable
PIN: Not applicable

SECTION II: HAZARDOUS INGREDIENTS

Ingredients	Percent	CAS Number	LD_{50} (Species/Route)	LC_{50} (Species/Route)
None	-	-	-	-

SECTION III: TOXICOLOGICAL PROPERTIES

Route of entry: ☒ Skin ☒ Eye Contact ☒ Inhalation ☒ Ingestion

Effects of acute exposure: May cause mechanical irritation of the eye. Will irritate gastrointestinal tract and respiratory tract.

Effects of chronic exposure: Not applicable

Exposure limits: Not applicable

Irritancy of product: May cause some minor irritation due to dust drying skin, minor irritation to the eyes, gastrointestinal tract irritation. May be irritating to mucous membranes of nose, throat and upper respiratory tract.

Sensitization to product: No information available

Carcinogenicity: No information available

Reproductive toxicity: No information available

Teratogenicity: No information available

Mutagenicity: No information available

Name of toxicological synergistic products: Not applicable

STARPAK DP

SECTION IV: FIRST AID MEASURES

Skin contact: Wash affected area with soap and water.

Eye contact: Flush eyes with water for 15 minutes and seek medical attention

Inhalation: Remove patient to fresh air.

Ingestion: Dilute by drinking large quantities of water and seek medical attention.

SECTION V: PHYSICAL DATA

Physical state: Solid.

Appearance and odour: Solid off-white powder; starchy odour

Odour threshold: Not applicable

Specific gravity: Not applicable

Vapor pressure (mmHG): Not applicable

Vapor density (Air=1): Not applicable

Evaporation rate: Not applicable

Boiling point (°C): Not applicable

Freeze/Melting point (°C): Not applicable

pH: 9.0-9.5

Co-efficient of water/oil distribution: 100% soluble in water.

STARPAK DP

SECTION VI: FIRE AND EXPLOSION DATA

Conditions of flammability: Dust and air mixture may be explosive.

Means of extinguishing: Use media suitable for packaging and surrounding fire.

Flash point: Not applicable

Upper flammable limit: Not applicable

Lower flammable limit: Not applicable

Auto-ignition temperature: Not applicable

Hazardous combustion products: Not applicable

Explosion data-sensitivity to mechanical impact: Not applicable

Explosion data-sensitivity to static discharge: Not applicable

SECTION VII: REACTIVITY DATA

Chemically unstable (conditions): Stable

Product incompatible with: Strong oxidizing agents.

Conditions of reactivity: Not applicable

Hazardous decomposition products: Oxides of carbon

STARPAK DP

SECTION VIII: PREVENTATIVE MEASURES

Personal protective equipment: Use an NIOSH approved dust filter. Suggest plastic or rubber. Suggest the use of goggles when handling.

Specific engineering controls: Local exhaust ventilation is recommended for control of dust.

Procedures for leak/spills: Use appropriate safety equipment. Avoid all bodily contact with spilled material. Small spills, sweep up and either recover to dispose in approved containers. Large spills, shovel and sweep up for reclamation or disposal. It is suggested that recovered material be reclaimed for reuse. Do not allow material to enter storm sewers or storm water inlets.

Waste disposal: Dispose to conform with local disposal regulations. It is the responsibility of the user of this product to determine at the time of disposal whether the product meet criteria for hazardous waste. This product lends itself to recovering for reclamation if spilled.

Handling procedures and equipment: Avoid ingestion. Do not breathe the dust. Wash thoroughly after handling. Practice reasonable caution and personal cleanliness. Launder exposed clothing before reuse. Avoid practices which produce dust.

Storage requirements: Store away from sources of ignition. Store in dry well ventilated place. Avoid damp or wet conditions that could lead to spoilage.

Special shipping information: Not applicable

SECTION IX: PREPARATION

Date updated: April 01, 2005

Prepared by: Product Safety Committee

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1-888-243-9771 – ChEmSS – Chemical Exposure

KELZAN XCD

SECTION I: IDENTIFICATION OF PRODUCT

Product Name: KELZAN XCD
Chemical Family: Polysaccharide gum
WHMIS Classification: Not applicable
Workplace Hazard: Not applicable
Product Use: Viscosifier
TDG Classification: Not applicable
Packaging Group: Not applicable
PIN: Not applicable

SECTION II: HAZARDOUS INGREDIENTS

Ingredients	Percent	CAS Number	LD_{50} (Rat/Oral)	LC_{50} (Species/Route)
Xanthan gum	-	11138-66-2	>5000 mg/kg	-

SECTION III: TOXICOLOGICAL PROPERTIES

Route of entry: ☒ Skin ☒ Eye Contact ☒ Inhalation ☒ Ingestion

Effects of acute exposure: Dry powder may cause irritation of skin. Prolonged exposure may cause drying or chapping of the skin.

Effects of chronic exposure: Not applicable

Exposure limits: Not established

Irritancy of product: Excessive inhalation of dust impedes respiration due to hygroscopic properties.

Sensitization to product: Not applicable

Carcinogenicity: Not available

Reproductive toxicity: Not available

Teratogenicity: Not available

Mutagenicity: Not available

Name of toxicological synergistic products: Not available

KELZAN XCD

SECTION IV: FIRST AID MEASURES

Skin contact: Flush with plenty of water. Remove contaminated clothing.

Eye contact: Flush with plenty of water. If irritation develops, call a physician. Remove contact lenses. Remove contaminated clothing.

Inhalation: None anticipated. Remove to fresh air. Call a physician.

Ingestion: Essentially non-toxic. Contact a physician or poison control center for advice.

SECTION V: PHYSICAL DATA

Physical state: Solid.

Appearance and odour: Light beige powder, slight odour.

Odour threshold: Not available

Specific gravity: Not available

Vapor pressure (mmHG): Not available

Vapor density (Air=1): Not available

Evaporation rate: Not available

Boiling point (°C): Not available

Freeze/Melting point (°C): Not available

pH: Approximately neutral

Co-efficient of water/oil distribution: Not applicable

KELZAN XCD

SECTION VI: FIRE AND EXPLOSION DATA

Conditions of flammability: Not applicable

Means of extinguishing: Dry chemical, alcohol foam, water fog, and CO2.

Flash point: Not applicable

Upper flammable limit: Not applicable

Lower flammable limit: Not applicable

Auto-ignition temperature: Not applicable

Hazardous combustion products: Carbon dioxide, carbon monoxide

Explosion data-sensitivity to mechanical impact: Not applicable

Explosion data-sensitivity to static discharge: Not applicable

SECTION VII: REACTIVITY DATA

Chemically unstable (conditions): Stable.

Product incompatible with: Strong oxidizing agents.

Conditions of reactivity: Combustible dust in the finely divided and suspended state.

Hazardous decomposition products: Carbon dioxide, carbon monoxide from thermal decomposition

KELZAN XCD

SECTION VIII: PREVENTATIVE MEASURES

Personal protective equipment: Suggest NIOSH/MESA approved dust mask.

Specific engineering controls: 10 changes per hour suggested.

Procedures for leak/spills: Sweep-up spilled material and repackage. Hose spill area very thoroughly. This product becomes very slippery when wet.

Waste disposal: Handle as non-hazardous material

Handling procedures and equipment: Product becomes very slippery when wet. Wash thoroughly after handling. Keep container closed. Exercise caution in the storage and handling of all chemical substances. Use in ventilated area.

Storage requirements: Product becomes very slippery when wet. Wash thoroughly after handling. Keep container closed. Exercise caution in the storage and handling of all chemical substances. Use in ventilated area.

Special shipping information: Not applicable

SECTION IX: PREPARATION

Date updated: April 1, 2005

Prepared by: Product Safety Committee

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TELEPHONE: (403) 269-2242 FAX: (403) 269-2251
1-613-996-6666 – CANUTEC – Transportation Emergency
1-888-243-9771 – ChEmS – Chemical Exposure

XANTHAN GUM

SECTION I: IDENTIFICATION OF PRODUCT

Product Name: XANTHUM GUM
Chemical Family: Polysaccharide Polymer
WHMIS Classification: Not controlled
Workplace Hazard: Not applicable
Product Use: Viscosifier
TDG Classification: Not Regulated
Packaging Group: Not applicable
PIN: Not applicable

SECTION II: INFORMATION ON INGREDIENTS

Ingredients	Percent	CAS Number	LD_{50} (Species/Route)	LC_{50} (Species/Route)
Xanthan Gum	100%	11138-66-2	Not available	Not Available

SECTION III: TOXICOLOGICAL PROPERTIES

Route of entry: ☒ Skin ☒ Eye Contact ☒ Inhalation ☒ Ingestion

Effects of acute exposure: Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Effects of chronic exposure: Repeated or prolonged exposure is not known to aggravate medical condition.

Exposure limits: Not available

Irritancy of product: skin and eye irritant.

Sensitization to product: Not available

Carcinogenicity: Not available

Reproductive toxicity: Not available

Teratogenicity: Not available

Mutagenicity: Not available

Name of toxicological synergistic products: Not available

XANTHAN GUM

SECTION IV: FIRST AID MEASURES

Skin contact: After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing. **Serious Skin Contact:** Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Eye contact: Flush with plenty of water. If irritation develops, call a physician

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Ingestion: Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

SECTION V: PHYSICAL DATA

Physical state: Solid.

Appearance and odour: Light beige powder, slight odour

Odour threshold: Not available

Specific gravity (°C): 1.5

Vapor pressure (mmHG): Not available

Vapor density (Air=1): Not available

Evaporation rate: Not available

Boiling point (°C): Not available

Freeze/Melting point (°C): Not available

pH (%): 5.4-8.6

Co-efficient of water/oil distribution: Complete

XANTHAN GUM

SECTION VI: FIRE AND EXPLOSION DATA

Conditions of flammability: May be combustible at high temperature

Means of extinguishing: Dry chemical, foam, water fog, spray

Flash point: Not available

Upper flammable limit: Not available

Lower flammable limit: Not available

Auto-ignition temperature: Not available

Hazardous combustion products: Not available

Explosion data-sensitivity to mechanical impact: Not available

Explosion data-sensitivity to static discharge: Combustible dust in the finely divided and suspended state.

SECTION VII: REACTIVITY DATA

Chemically unstable (conditions): Stable.

Product incompatible with: Strong oxidizing agents and caustic solutions

Conditions of reactivity: Not applicable

Hazardous decomposition products: Not applicable

XANTHAN GUM

SECTION VIII: PREVENTATIVE MEASURES

Personal protective equipment: Suggest NIOSH/MESA approved dust mask. Splash goggles.

Specific engineering controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Procedures for leak/spills: Sweep-up spilled material and repackage. Hose spill area very thoroughly. This product becomes very slippery when wet.

Waste disposal: Dispose of material in accordance with local ordinances. Landfill is suggested.

Handling procedures and equipment: Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk; evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe dust. Wear suitable protective clothing In case of insufficient ventilation, wear suitable respiratory equipment If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes

Storage requirements: Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

Special shipping information: Not applicable

SECTION IX: PREPARATION

Date updated: March 30, 2007

Prepared by: Product Safety Committee

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MATERIAL SAFETY DATA SHEET

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1-888-243-9771 – ChEmSS – Chemical Exposure

HT 40N

SECTION I: IDENTIFICATION OF PRODUCT

Product Name: HT 40 N
Chemical Family: Hydrocarbon
WHMIS Classification: Not controlled
Workplace Hazard: Not applicable

Product Use: Drill mud oil
TDG Classification: Not regulated
Packaging Group: Not applicable
PIN: Not applicable

SECTION II: INFORMATION ON INGREDIENTS

Ingredients	Percent	CAS Number	LD_{50} (Species/Route)	LC_{50} (Species/Route)
Mixture of severely hydrotreated and hydrocracked base oil (petroleum) and other proprietary, non-hazardous additives.	100	Mixture	Acute Oral toxicity (LD50): >5000 mg/kg (rat) Acute Dermal toxicity (LD50): >2000 mg/kg (rabbit)	Acute Inhalation toxicity (LC50): >2300 mg/m³/4h (rat)

SECTION III: TOXICOLOGICAL PROPERTIES

Route of entry: ☒ Skin ☒ Eye Contact ☒ Inhalation ☒ Ingestion

Effects of acute exposure: Short-term exposure is expected to cause only slight irritation, if any. To eyes and skin. Ingestion of this product may lead to aspiration of the liquid, especially if vomiting occurs. This may result in chemical pneumonitis (inflammation of the lungs) and/or pulmonary edema (an accumulation of fluid in the lungs). May produce a laxative effect.

Effects of chronic exposure: Prolonged or repeated contact may defat and dry skin, and cause dermatitis.

Exposure limits: 8 hours TLV-TWA of 5 mg/m3 based on ACGIH TLV for oil mist. STEL 10 mg/m3 (oil mist)

Irritancy of product: Eye irritation with oil mist spray.

Sensitization to product: This product is not expected to be a skin/respiratory tract sensitizer.

Carcinogenicity: Not expected

Reproductive toxicity: Not expected

Teratogenicity: Not expected

Mutagenicity: Not expected

Name of toxicological synergistic products: Not expected

HT 40N

SECTION IV: FIRST AID MEASURES

Skin contact: Quickly and gently, blot or brush away excess chemical. Wash gently and thoroughly with water and non-abrasive soap for 5 minutes or until chemical is removed. Remove contaminated clothing, shoes and leather goods (e.g., watchbands, belts, etc.). If irritation persists, repeat flushing. Obtain medical advice immediately. Completely decontaminate clothing, shoes and leather goods before reuse or discard.

Eye contact: No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the chemical is removed. If irritation persists, obtain medical advice.

Inhalation: Remove source of contamination or move victim to fresh air.If irritation persists, obtain medical advice.

Ingestion: NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. DO NOT INDUCE VOMITING. Have victim drink 240 to 300 mL (8 to 10 oz) of water to dilute material in stomach. If vomiting occurs naturally, rinse mouth and repeat administration of water. Obtain medical attention.

SECTION V: PHYSICAL DATA

Physical state: Viscous liquid.

Appearance and odour: Clear and bright viscous liquid. No odour or petroleum oil like.

Odour threshold: Not available

Specific gravity: 0.845 @ 15oC (59oF)

Vapor pressure (mmHG): Negligible at ambient temperature and pressure.

Vapor density (Air=1): Not available

Evaporation rate: Not available

Boiling point (°C): Not available

Freeze/Melting point (°C): Not available

pH: Not applicable

Co-efficient of water/oil distribution: Insoluble in water

HT 40N

SECTION VI: FIRE AND EXPLOSION DATA

Conditions of flammability: Low fire hazard. This material must be heated before ignition will occur.

Means of extinguishing: Carbon dioxide, dry chemical, foam, water spray, fog and water.

Flash point: Closed Cup > or equal to 104°C (219 °F)

Upper flammable limit: Not available

Lower flammable limit: Not available

Auto-ignition temperature: Not available

Hazardous combustion products: Carbon oxides (CO, CO2), nitrogen oxides (NOx), part oxidized hydrocarbon fragments, smoke and irritating vapors as products of incomplete combustion.

Explosion data-sensitivity to mechanical impact: Do not cut, weld, heat, drill or pressurize empty container. Containers may explode in heat of fire.

Explosion data-sensitivity to static discharge: Not applicable

SECTION VII: REACTIVITY DATA

Chemically unstable (conditions): The product is stable under normal handling and storage conditions.

Product incompatible with: Reactive with oxidizing agents.

Conditions of reactivity: Reactive with oxidizing agents.

Hazardous decomposition products: May release COx, NOx, part oxidized hydrocarbon fragment, smoke and irritating vapors when heated to decomposition.

HT 40N

SECTION VIII: PREVENTATIVE MEASURES

Personal protective equipment:
Eyes: As a minimum, safety glasses with side shields should be worn when handling this material.
Body: If this material may come in contact with the body during handling and use, we recommend wearing appropriate protective clothing to prevent contact with the skin. (Contact your PPE provider for more information.).
Respiratory -A minimum of NIOSH-approved air-purifying respirator with an organic vapor cartridge or canister with a dust, fume of mist filter (R, or P series) may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. A NIOSH-approved positive-pressure, air-supplied respirator or self-contained breathing apparatus may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.
Hands: If this material may come in contact with the hands during handling and use, we recommend wearing gloves of the following material(s): Neoprene, Nitrile, Polyvinyl alcohol (PVA), Fluoro-elastomer. Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns.
Feet: Wear appropriate footwear to prevent product from coming in contact with feet and skin.

Specific engineering controls: For normal application, special ventilation is not necessary. If user's operations generate vapors or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Ensure that eyewash station and safety shower are close to work-station.

Procedures for leak/spills: Consult current National Emergency Response Guide Book (NAERG) for appropriate spill measures if necessary. Extinguish all ignition sources. Stop leak if safe to do so. Dike spilled material. Use appropriate inert absorbent material to absorb spilled product. Collect used absorbent for later disposal. Avoid contact with spilled material. Avoid contaminating sewers, streams, rivers and other water courses with spilled material. Notify appropriate authorities immediately.

Waste disposal: Spent/ used/ waste product may meet the requirements of a hazardous waste. Consult your local or regional authorities. Ensure that waste management processes are in compliance with government requirements and local disposal regulations.

Handling procedures and equipment: Avoid contact with any sources of ignition, flames, heat, and sparks. Avoid eye contact. Avoid skin contact. Avoid inhalation of product vapors or mists. Empty containers may contain product residue. Do not pressurize, cut, heat, or weld empty containers. Do not reuse containers without commercial cleaning and/or reconditioning. Personnel who handle this material should practice good personal hygiene during and after handling to help prevent accidental ingestion of this product. Properly dispose of contaminated leather articles including shoes that cannot be decontaminated.

Storage requirements: Store away from incompatible and reactive materials (See section 5 and 10). Keep container tightly closed. Store in dry, cool, well-ventilated area

Special shipping information: Not applicable

SECTION IX: PREPARATION

Date updated: September 3, 2005 **Prepared by:** Product Safety Committee

All the recommendations and suggestions herein concerning this product are based upon tests and data believed to be reliable, however it is the user's responsibility to determine the safety, toxicity and sustainability for their own use of the product described herein. Since the actual use by others is beyond our control, no guarantee, expressed or implied, is made by Q'Max Solutions Inc. as to the effects of such use, the results to be obtained, or the safety and toxicity of the product nor does Q'Max Solutions Inc. assume any liability arising out of use by others. Nor is the information herein to be considered as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.

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MATERIAL SAFETY DATA SHEET

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1-613-996-6666 – CANUTEC – Transportation Emergency
1-888-243-9771 – ChEmSS – Chemical Exposure

KELZAN XCD

SECTION I: IDENTIFICATION OF PRODUCT

Product Name: KELZAN XCD
Chemical Family: Polysaccharide gum
WHMIS Classification: Not applicable
Workplace Hazard: Not applicable
Product Uses: Viscosifier
TDG Classification: Not applicable
Packaging Group: Not applicable
PIN: Not applicable

SECTION II: HAZARDOUS INGREDIENTS

Ingredients	Percent	CAS Number	LD_{50} (Rat/Oral)	LC_{50} (Species/Route)
Xanthan gum	-	11138-66-2	>5000 mg/kg	-

SECTION III: TOXICOLOGICAL PROPERTIES

Route of entry: ☒ Skin ☒ Eye Contact ☒ Inhalation ☒ Ingestion

Effects of acute exposure: Dry powder may cause irritation of skin. Prolonged exposure may cause drying or chapping of the skin.

Effects of chronic exposure: Not applicable

Exposure limits: Not established

Irritancy of product: Excessive inhalation of dust impedes respiration due to hygroscopic properties.

Sensitization to product: Not applicable

Carcinogenicity: Not available

Reproductive toxicity: Not available

Teratogenicity: Not available

Mutagenicity: Not available

Name of toxicological synergistic products: Not available

KELZAN XCD

SECTION IV: FIRST AID MEASURES

Skin contact: Flush with plenty of water. Remove contaminated clothing.

Eye contact: Flush with plenty of water. If irritation develops, call a physician. Remove contact lenses. Remove contaminated clothing.

Inhalation: None anticipated. Remove to fresh air. Call a physician.

Ingestion: Essentially non-toxic. Contact a physician or poison control center for advice.

SECTION V: PHYSICAL DATA

Physical state: Solid.

Appearance and odour: Light beige powder, slight odour.

Odour threshold: Not available

Specific gravity: Not available

Vapor pressure (mmHG): Not available

Vapor density (Air=1): Not available

Evaporation rate: Not available

Boiling point (°C): Not available

Freeze/Melting point (°C): Not available

pH: Approximately neutral

Co-efficient of water/oil distribution: Not applicable

KELZAN XCD

SECTION VI: FIRE AND EXPLOSION DATA

Conditions of flammability: Not applicable

Means of extinguishing: Dry chemical, alcohol foam, water fog, and CO2.

Flash point: Not applicable

Upper flammable limit: Not applicable

Lower flammable limit: Not applicable

Auto-ignition temperature: Not applicable

Hazardous combustion products: Carbon dioxide, carbon monoxide

Explosion data-sensitivity to mechanical impact: Not applicable

Explosion data-sensitivity to static discharge: Not applicable

SECTION VII: REACTIVITY DATA

Chemically unstable (conditions): Stable.

Product incompatible with: Strong oxidizing agents.

Conditions of reactivity: Combustible dust in the finely divided and suspended state.

Hazardous decomposition products: Carbon dioxide, carbon monoxide from thermal decomposition

KELZAN XCD

SECTION VIII: PREVENTATIVE MEASURES

Personal protective equipment: Suggest NIOSH/MESA approved dust mask.

Specific engineering controls: 10 changes per hour suggested.

Procedures for leak/spills: Sweep-up spilled material and repackage. Hose spill area very thoroughly. This product becomes very slippery when wet.

Waste disposal: Handle as non-hazardous material

Handling procedures and equipment: Product becomes very slippery when wet. Wash thoroughly after handling. Keep container closed. Exercise caution in the storage and handling of all chemical substances. Use in ventilated area.

Storage requirements: Product becomes very slippery when wet. Wash thoroughly after handling. Keep container closed. Exercise caution in the storage and handling of all chemical substances. Use in ventilated area.

Special shipping information: Not applicable

SECTION IX: PREPARATION

Date updated: April 1, 2005

Prepared by: Product Safety Committee

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1-888-243-9771 – ChEmSS – Chemical Exposure

STAFLO REGULAR

SECTION I: IDENTIFICATION OF PRODUCT

Product Name: STAFLO REGULAR
Chemical Family: Sodium Carboxymethylcellulose
WHMIS Classification: Not applicable
Workplace Hazard: Treat as nuisance dust
Product Use: Fluid loss reducer
TDG Classification: Not applicable
Packaging Group: Not applicable
PIN: Not applicable

SECTION II: HAZARDOUS INGREDIENTS

Ingredients	Percent	CAS Number	LD_{50} (Species/Route)	LC_{50} (Species/Route)
None	-	-	-	-

SECTION III: TOXICOLOGICAL PROPERTIES

Route of entry: ☒ Skin ☒ Eye Contact ☒ Inhalation ☒ Ingestion

Effects of acute exposure: May cause mechanical irritation to the eyes.. High dust concentrations may cause coughing and sneezing

Effects of chronic exposure: Not applicable

Exposure limits: Not applicable

Irritancy of product: Low

Sensitization to product: Not applicable

Carcinogenicity: No information available

Reproductive toxicity: No information available

Teratogenicity: No information available

Mutagenicity: No information available

Name of toxicological synergistic products: No information available

STAFLO REGULAR

SECTION IV: FIRST AID MEASURES

Skin contact: Wash skin thoroughly with soap and water. Remove contaminated clothing. Seek medical attention if any discomfort continues.

Eye contact: Flush with gently flowing warm water until particles are removed. If irritation persists obtain medical attention.

Inhalation: Move to fresh air. Apply oxygen or artificial respiration as required. If breathing difficulties or distress continues obtain medical attention.

Ingestion: If victim if fully conscious, rinse mouth then give 1 to 2 glasses of water. If symptoms develop obtain medical attention. Never give anything by mouth to an unconscious or convulsing victim.

SECTION V: PHYSICAL DATA

Physical state: Solid.

Appearance and odour: Free flowing white powder; no appreciable odour

Odour threshold: Not applicable

Specific gravity: Not available

Vapor pressure (mmHG): Not applicable

Vapor density (Air=1): Not applicable

Evaporation rate: Not applicable

Boiling point (°C): Not applicable

Freeze/Melting point (°C): Not applicable

pH: 6.0-8.5 (1% sol'n)

Co-efficient of water/oil distribution: Soluble in water.

STAFLO REGULAR

SECTION VI: FIRE AND EXPLOSION DATA

Conditions of flammability: Not applicable

Means of extinguishing: Water spray, foam, dry chemical or CO_2.

Flash point: Not applicable

Upper flammable limit: Not applicable

Lower flammable limit: Not applicable

Auto-ignition temperature: Not applicable

Hazardous combustion products: Oxides of carbon

Explosion data-sensitivity to mechanical impact: Not applicable

Explosion data-sensitivity to static discharge: Not applicable

Unusual Fire and explosion hazards: Dust/air mixtures may ignite violently upon exposure to sparks or sources of ignition.

SECTION VII: REACTIVITY DATA

Chemically unstable (conditions): Stable. Hazardous polymerization will not occur.

Product incompatible with: No listed compatible materials

Conditions of reactivity: None known

Hazardous decomposition products: Oxides of carbon and hydrocarbons upon combustion.

STAFLO REGULAR

SECTION VIII: PREVENTATIVE MEASURES

Personal protective equipment: Suggest approved dust mask; nuisance dust. Use approved respirator with dust cartridges if level of airborne dust exceeds TLV. Suggest goggles or safety glasses with side-shields; nuisance dust. Ensure eyewash station and emergency shower available when handling chemicals.

Specific engineering controls: Use in well-ventilated area. Use local exhaust ventilation, process enclosure or other engineering controls to maintain level of airborne dust below TLV.

Procedures for leak/spills: Use appropriate safety equipment. Eliminate ignition sources. Vacuum or sweep-up if dry. If wet, pick up with dry material such as sand or dirt. Avoid flushing with water as material becomes slippery. Non-sparking tools should be used as dust/air mixtures may explode violently. Collect uncontaminated material in approved containers for disposal.

Waste disposal: Dispose in accordance with federal, provincial and local regulations. Landfill is suggested. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal. Empty packaging must be disposed of, or recycled, in accordance with local regulations.

Handling procedures and equipment: Handle in well ventilated areas. Avoid dust generation. Practice good hygiene

Storage requirements: Store in original container. Store in cool, dry area (hygroscopic).

Special shipping information: Not applicable

SECTION IX: PREPARATION

Date updated: June 26, 2006

Prepared by: Product Safety Committee

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1-888-243-9771 – ChEmSS – Chemical Exposure

STAFLO REGULAR

SECTION I: IDENTIFICATION OF PRODUCT

Product Name: STAFLO REGULAR
Chemical Family: Sodium Carboxymethylcellulose
WHMIS Classification: Not applicable
Workplace Hazard: Treat as nuisance dust
Product Use: Fluid loss reducer
TDG Classification: Not applicable
Packaging Group: Not applicable
PIN: Not applicable

SECTION II: HAZARDOUS INGREDIENTS

Ingredients	Percent	CAS Number	LD_{50} (Species/Route)	LC_{50} (Species/Route)
None	-	-	-	-

SECTION III: TOXICOLOGICAL PROPERTIES

Route of entry: ☒ Skin ☒ Eye Contact ☒ Inhalation ☒ Ingestion

Effects of acute exposure: May cause mechanical irritation to the eyes.. High dust concentrations may cause coughing and sneezing

Effects of chronic exposure: Not applicable

Exposure limits: Not applicable

Irritancy of product: Low

Sensitization to product: Not applicable

Carcinogenicity: No information available

Reproductive toxicity: No information available

Teratogenicity: No information available

Mutagenicity: No information available

Name of toxicological synergistic products: No information available

STAFLO REGULAR

SECTION IV: FIRST AID MEASURES

Skin contact: Wash skin thoroughly with soap and water. Remove contaminated clothing. Seek medical attention if any discomfort continues.

Eye contact: Flush with gently flowing warm water until particles are removed. If irritation persists obtain medical attention.

Inhalation: Move to fresh air. Apply oxygen or artificial respiration as required. If breathing difficulties or distress continues obtain medical attention.

Ingestion: If victim if fully conscious, rinse mouth then give 1 to 2 glasses of water. If symptoms develop obtain medical attention. Never give anything by mouth to an unconscious or convulsing victim.

SECTION V: PHYSICAL DATA

Physical state: Solid.

Appearance and odour: Free flowing white powder; no appreciable odour

Odour threshold: Not applicable

Specific gravity: Not available

Vapor pressure (mmHG): Not applicable

Vapor density (Air=1): Not applicable

Evaporation rate: Not applicable

Boiling point (°C): Not applicable

Freeze/Melting point (°C): Not applicable

pH: 6.0-8.5 (1% sol'n)

Co-efficient of water/oil distribution: Soluble in water.

STAFLO REGULAR

SECTION VI: FIRE AND EXPLOSION DATA

Conditions of flammability: Not applicable

Means of extinguishing: Water spray, foam, dry chemical or CO_2.

Flash point: Not applicable

Upper flammable limit: Not applicable

Lower flammable limit: Not applicable

Auto-ignition temperature: Not applicable

Hazardous combustion products: Oxides of carbon

Explosion data-sensitivity to mechanical impact: Not applicable

Explosion data-sensitivity to static discharge: Not applicable

Unusual Fire and explosion hazards: Dust/air mixtures may ignite violently upon exposure to sparks or sources of ignition.

SECTION VII: REACTIVITY DATA

Chemically unstable (conditions): Stable. Hazardous polymerization will not occur.

Product incompatible with: No listed compatible materials

Conditions of reactivity: None known

Hazardous decomposition products: Oxides of carbon and hydrocarbons upon combustion.

STAFLO REGULAR

SECTION VIII: PREVENTATIVE MEASURES

Personal protective equipment: Suggest approved dust mask; nuisance dust. Use approved respirator with dust cartridges if level of airborne dust exceeds TLV. Suggest goggles or safety glasses with side-shields; nuisance dust. Ensure eyewash station and emergency shower available when handling chemicals.

Specific engineering controls: Use in well-ventilated area. Use local exhaust ventilation, process enclosure or other engineering controls to maintain level of airborne dust below TLV.

Procedures for leak/spills: Use appropriate safety equipment. Eliminate ignition sources. Vacuum or sweep-up if dry. If wet, pick up with dry material such as sand or dirt. Avoid flushing with water as material becomes slippery. Non-sparking tools should be used as dust/air mixtures may explode violently. Collect uncontaminated material in approved containers for disposal.

Waste disposal: Dispose in accordance with federal, provincial and local regulations. Landfill is suggested. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal. Empty packaging must be disposed of, or recycled, in accordance with local regulations.

Handling procedures and equipment: Handle in well ventilated areas. Avoid dust generation. Practice good hygiene

Storage requirements: Store in original container. Store in cool, dry area (hygroscopic).

Special shipping information: Not applicable

SECTION IX: PREPARATION

Date updated: June 26, 2006

Prepared by: Product Safety Committee

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1-888-243-9771 – ChEx8S – Chemical Exposure

CALCIUM CARBONATE "325"

SECTION I: IDENTIFICATION OF PRODUCT

Product Name: CALCIUM CARBONATE "325"
Chemical Family: Alkaline Earth
WHMIS Classification: Not applicable
Workplace Hazard: Not applicable
Product Use: Bridging agent
TDG Classification: Not applicable
Packaging Group: Not applicable
PIN: Not applicable

SECTION II: HAZARDOUS INGREDIENTS

Ingredients	Percent	CAS Number	LD_{50} (Rat/Oral)	LC_{50} (Species/Route)
Calcium Carbonate (Limestone)	60-100	471-34-1	6450 mg/kg	-
Crystalline Silica, Quartz	0-1	14808-60-7		

SECTION III: TOXICOLOGICAL PROPERTIES

Route of entry: ☒ Skin ☒ Eye Contact ☒ Inhalation ☒ Ingestion

Effects of acute exposure: Irritant

Effects of chronic exposure: No signs or symptoms of chronic exposure have been reported.

Exposure limits: Not applicable

Irritancy of product: May cause skin and eye irritation. If inhaled in form of dust, may cause reparatory tract, irritation/inflammation. Exposure may cause coughing and sneezing. Large amounts may cause chemical pneumonitis. Cause gastro-intestinal irritation. If ingested in large quantities may cause nausea, constipation and hypercalcaemia, hemorrhage.

Sensitization to product: Not applicable

Carcinogenicity: May contain crystalline silica which is carcindenic to humans.

Reproductive toxicity: Not applicable

Teratogenicity: Not applicable

Mutagenicity: Not applicable

Name of toxicological synergistic products: Not applicable

CALCIUM CARBONATE "325"

SECTION IV: FIRST AID MEASURES

Skin contact: Carefully and gently brush the contaminated body surfaces in order to remove all traces of Calcium Carbonate. Use a brush, cloth or gloves. Remove all Calcium Carbonate-contaminated clothing. Rinse contaminated area with lukewarm water for 15 to 20 minutes. If irritation occurs or persists seek medical attention..

Eye contact: Immediately rinse contaminated eye(s) with gently running lukewarm water for 15 to 20 minutes. If irritation occurs or persists seek medical attention.

Inhalation: Move sources of dust or move victim to fresh air. Obtain medical attention immediately. If victim does not breathe, give artificial respiration. Contact a physician immediately..

Ingestion: If victim is unconscious, wash out mouth with water. Have conscious person drink several glasses of water to dilute. Induce vomiting. Contact a physician immediately. Never give anything by mouth to an unconscious or convulsing person.

SECTION V: PHYSICAL DATA

Physical state: Solid.

Appearance and odour: Odourless – white to gray solid or powder

Odour threshold: Not applicable

Specific gravity: 2.65 - 2.75

Vapor pressure (mmHG): Not applicable

Vapor density (Air=1): Not applicable

Evaporation rate: Not applicable

Boiling point (°C): Not applicable

Freeze/Melting point (°C): Not applicable

pH: 9.4

Co-efficient of water/oil distribution: Not applicable

CALCIUM CARBONATE "325"

SECTION VI: FIRE AND EXPLOSION DATA

Conditions of flammability: Not applicable

Means of extinguishing: Calcium Carbonate does not burn. Use extinguishing media appropriate to surrounding fire conditions.

Flash point: Not applicable

Upper flammable limit: Not applicable

Lower flammable limit: Not applicable

Auto-ignition temperature: Not applicable

Hazardous combustion products: None

Explosion data-sensitivity to mechanical impact: Not applicable

Explosion data-sensitivity to static discharge: Not applicable.

SECTION VII: REACTIVITY DATA

Chemically unstable (conditions): Stable

Product incompatible with: Fluorine, magnesium, aluminum, silicon, hydrogen, mercury, aluminum sulfate, ammonium sulfate, acids (violent reaction with generating heat and possible explosion in confined area)..

Conditions of reactivity: Calcium Carbonate is a very stable chemical substance Decomposition does not occur at normal temperatures (inferior to 600 °C). Reacts chemically with strong acids to form calcium based compounds and to liberate carbon dioxide.

Hazardous decomposition products: Decomposes at 870 °C to form carbon dioxide and calcium oxide

CALCIUM CARBONATE "325"

SECTION VIII: PREVENTATIVE MEASURES

Personal protective equipment: NIOSH approved filtering anti-dust mask. Gauntlets Cuff styleTight fitting goggles with side shields. Wear clean, dry gloves, full length pants over boots, long sleeved shirt buttoned to the neck, head protection and approved eye protection selected for the working conditions.

Specific engineering controls: Enclose dust sources; use exhaust ventilation (dust collector) or other engineering controls at handling points to keep airborne levels below recommended exposure limits.

Procedures for leak/spills: Limit access to trained personnel. Sweep up and place in container. Use industrial vacuums for large spills. Avoid raising dust. Ventilate area

Waste disposal: Transport to disposal area or bury. Federal, Provincial and Local regulations

Handling procedures and equipment: Avoid skin and eye contact. Minimize dust generation. Wear protective goggles and incases of insufficient ventilation, use anti-dust mask.

Storage requirements: An eye wash station should be readily available where this is used. When storing, keep tightly closed containers in a cool; dry and well-ventilated area, away from acids.

Special shipping information: Not applicable.

SECTION IX: PREPARATION

Date updated: March 8, 2005

Prepared by: Product Safety Committee

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1-888-243-9771 – ChEmSS – Chemical Exposure

Q'BREAK

SECTION I: IDENTIFICATION OF PRODUCT

Product Name: Q'BREAK
Chemical Family: Enzymes and acid blend
WHMIS Classification: D2A,D2B
Workplace Hazard: Respiratory tract sensitizer, Skin & eye irritant.

Product Use: Breaker to separate water in Polytar
TDG Classification: Not Regulated
Packaging Group: Not applicable
PIN: Not applicable

SECTION II: HAZARDOUS INGREDIENTS

Ingredients	Percent	CAS Number	LD_{50} (Species/Route)	LC_{50} (Species/Route)
Citric Acid	30-60%	77-92-9	3000 mg/kg	Not determined
Amylase	1-5%	9000-90-2	Not determined	Not determined

SECTION III: TOXICOLOGICAL PROPERTIES

Route of entry: ☒ Skin ☒ Eye Contact ☒ Inhalation ☒ Ingestion

Effects of acute exposure: Dust may irritate the nose and throat. Inhalation may cause irritation of the mucous membranes. May cause gastrointestinal irritation and dental erosion if ingested. May cause irritation to eyes and skin.

Effects of chronic exposure: Repeated inhalation of enzyme aerosols may cause respiratory tract sensitization in susceptible individuals. Symptoms include shortness of breath, skin rashes and irritation to eyes.

Exposure limits: Not determined

Irritancy of product: Skin and eye irritant

Sensitization to product: Respiratory tract sensitizer

Carcinogenicity: Not determined

Reproductive toxicity: Not determined

Teratogenicity: Not determined

Mutagenicity: Not determined

Name of toxicological synergistic products: Not determined

Q'BREAK

SECTION IV: FIRST AID MEASURES

Skin contact: Flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse.

Eye contact: Immediately flush with running water for 15 minutes. Hold eyelids apart to ensure rinsing of the entire surface of the eye and lids. Get immediate medical attention.

Inhalation: Remove to fresh air.

Ingestion: Do not induce vomiting. If conscious, give lots of water. Get immediate medical attention.

SECTION V: PHYSICAL DATA

Physical state: Powder

Appearance and odour: White granular, odourless

Odour threshold: Not applicable

Specific gravity (°C): 1.54

Vapor pressure (mmHG): Not determined

Vapor density (Air=1): Not determined

Evaporation rate: Not determined

Boiling point (°C): Not applicable

Freeze/Melting point (°C): Not determined

pH (%): 2.6 @ 10%, 2.4 @ 20% (wt/v)

Solubility in water: 1.62 g / 100 ml

Q'BREAK

SECTION VI: FIRE AND EXPLOSION DATA

Conditions of flammability: Not applicable

Means of extinguishing: Water, dry chemical, foam.

Flash point: Not applicable

Upper flammable limit: Not applicable

Lower flammable limit: Not applicable

Auto-ignition temperature: Not applicable

Hazardous combustion products: Not applicable

Explosion data-sensitivity to mechanical impact: Not applicable

Explosion data-sensitivity to static discharge: Not applicable

SECTION VII: REACTIVITY DATA

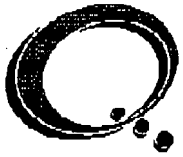
Chemically unstable (conditions): Stable

Product incompatible with: Alkali metals, organic acids, oxides of sulphur and strong bases.

Conditions of reactivity: Not known

Hazardous decomposition products: COx on combustion.

Hazardous polymerization: Will not occur



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SECTION VIII: PREVENTATIVE MEASURES

Personal protective equipment: NIOSH approved dust mask if ventilation is inadequate. Chemical resistant protective gloves. Safety glasses with side shields.

Specific engineering controls: General mechanical ventilation.

Procedures for leak/spills: Wear protective equipment. For small spills, sweep up and dispose of in approved waste containers. For large spills, shovel into approved waste containers. Keep out of sewers, storm drains, surface waters and soil.

Waste disposal: Dispose of contaminated product and materials used in cleaning up spills or leaks in a manner approved for this material. Consult appropriate federal, state and local regulatory agencies to ascertain proper disposal procedures.

Handling procedures and equipment: Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing.

Storage requirements: Store in a cool, dry, well-ventilated place away from incompatible materials. Keep bags or fiber drums dry at all times.

Special shipping information: Not applicable

SECTION IX: PREPARATION

Date updated: January 2007 **Prepared by:** Product Safety Committee

All the recommendations and suggestions herein concerning this product are based upon tests and data believed to be reliable, however it is the user's responsibility to determine the safety, toxicity and sustainability for their own use of the product described herein. Since the actual use by others is beyond our control, no guarantee, expressed or implied, is made by Q'Max Solutions Inc. as to the effects of such use, the results to be obtained, or the safety and toxicity of the product nor does Q'Max Solutions Inc. assume any liability arising out of use by others. Nor is the information herein to be considered as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.